Owner's Operation and Installation Manual for the

ES38 (RHFE-1004RFA)

Energysaver®

Gas Direct Vent Wall Furnace

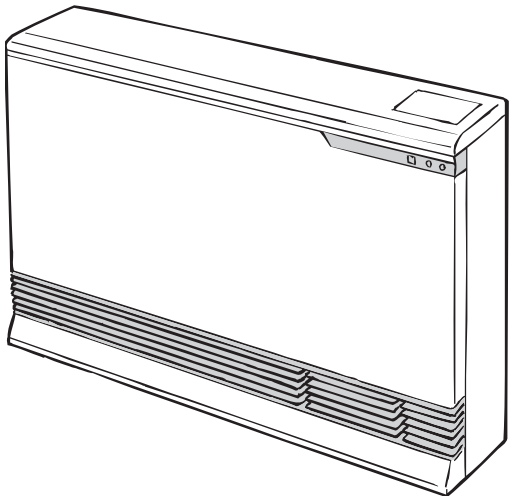


Table of Contents 2
Safety Information 3
Operating Instructions 6
Care and Maintenance ... 10
Fault Codes 12
Installation Instructions ... 14
Parts List 31
Consumer Support 42

WARNING: If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

— **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

— **WHAT TO DO IF YOU SMELL GAS**

- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

— **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

INSTALLER: Leave this manual with the appliance.
CONSUMER: Retain this manual for future reference.

Register your product at www.rinnairegistration.com or call 1-866-RINNAI1 (746-6241)

Rinnai®

This appliance may be installed as an OEM installation in a manufactured home (USA only) or mobile home and must be installed in accordance with the manufacturer's instructions and the *Manufactured Home construction and Safety Standard, Title 24 CFR, Part 3280,* in the United States, or the *Mobile Home Standard, CAN/CSA Z240 MH Series,* in Canada. This appliance is only for use with types of gas indicated on the rating plate. A conversion kit is supplied with the appliance.

This appliance may be installed in an aftermarket, permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

Table of Contents

Consumer Safety Information
- *Safety Definitions* 3
- *Safety Behaviors and Practices* 3
- *Safety Features* 4

Specifications
- *Appliance Specifications* 4, 5
- *Features* 5
- *Flue Manifolds* 5

Operating Instructions
- *Getting to Know your New Heating Appliance* 6
- *Control Panel* 7
- *Operating the Heater* 8, 9
- *Care and Maintenance* 10
- *Before Making a Service Call* 11
- *Fault Codes* 12
- *Restart Function* 13
- *Troubleshooting* 13

Installation Instructions
- *General Instructions* 14
- *Gas Connection* 15
- *Clearances to Combustibles* 15
- *Flue Terminal Clearances* 16, 17
- *Dimensions* 18
- *Installation Parts* 19
- *Drilling Flue Hole* 20
- *Attach Wall Brackets* 20
- *Attach Back Spacers* 20
- *Flue Manifold Installation* 21, 22
- *Extension Kit Installation* 23-25
- *Connecting the Appliance* 26
- *Operating Instructions* 27
- *Cut-Away Diagram* 28
- *Wiring Diagram* 29
- *Ladder Diagram* 30
- *Parts List* 31-41

Consumer Support
- *Warranty Information* 42
- *Limited Warranty* 42, 43

Consumer Safety Information

Safety Definitions

This is the safety alert symbol. This symbol alerts you to potential hazards that can kill or hurt you and others.

⚠ DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

Safety Behavior and Practices

⚠ WARNING

- Repairs should be performed by a qualified service technician. Consumer should not repair by yourself.
- Keep the area around the appliance clear and free from combustible materials, gasoline, and other flammable vapors and liquids.
- Never store liquid propane containers indoors.
- Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.
- This appliance is equipped with a three-prong plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the ground prong from this plug.
- Any alteration to the appliance or its controls can be dangerous.
- Do not operate appliance with the panels removed, cracked or broken. Replacement of the panels should be done by a licensed or qualified service person.

⚠ CAUTION

- Do not block the warm air discharge. Do not allow anyone to sleep directly in front of the appliance.
- Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.
- Young children should be carefully supervised when they are in the same room as the appliance.
- Clothing or other flammable material should not be placed on or near the appliance.
- Any safety screen or guard removed for servicing must be replaced prior to operating the appliance.
- Do not insert items into the louvers.
- Do not spray aerosols near the appliance while it is operating. Most aerosols contain butane gas which is flammable.
- Do not unplug the appliance while it is operating or while the fans are on.
- Do not use bare hands to touch the front louvers due to high temperatures which may cause burns.

Safety Features

- **Overheat:** The appliance will automatically shut down when the appliance exceeds a predetermined temperature.
- **Flame Failure:** The appliance will automatically shut down if the burner flame is extinguished.
- **Power Failure:** The appliance will cut off the gas if it loses electrical power.
- **Power Surge Fuse:** A glass fuse on the PC board protects against overcurrent. If the fuse blows then all indicator lamps will be off.
- **Spark Detector:** The appliance automatically shuts down if there is an abnormal spark at ignition.
- **Fusible Link:** In case the overheat feature prevents the temperature from rising then the fusible link will break shutting off the appliance.

Specifications

Appliance Specifications

Application	For manufactured home (USA only) or mobile home or residential installation convertible for use with natural gas and liquefied petroleum gases (propane / LPG) when provision is made for the simple conversion from one gas to the other. For commercial setting. For installation at altitudes up to 10,200 feet (3109 m).
General Description	Forced combustion, forced convection, flued gas furnace
Operation	Push button electronic
Gas Connection	1/2 in NPT
Gas Control	Electronic
Burners	Stainless steel Bunsen burner
Temperature Control	Electronic thermostat
Ignition System	Electronic spark ignition
Flue System	The flue must be terminated to atmosphere with only flue components listed with the appliance's certification. Warranty will be voided if non listed components are installed.
Humidifier Tray	Capacity - 7 pints (3000 cc)
Electrical Connection	AC 120V, 60 Hz, 121 watts
Weight	90 lbs (41 kg)
Noise Level	37-47 dB
AFUE Rating	Natural Gas: 80.6% Propane: 82.0%

Rinnai is continually updating and improving products. Therefore, specifications are subject to change without prior notice.

The efficiency rating of this appliance is a product thermal efficiency rating determined under continuous operating conditions and was determined independently of any installed system.

Appliance Specifications

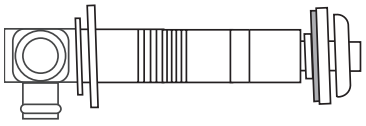
	Natural Gas	Propane Gas
Minimum supply gas pressure	5.0 in (127 mm) W.C.	11.0 in (280 mm) W.C.
Maximum supply gas pressure	10.5 in (267 mm) W.C.	13.0 in (330 mm) W.C.
BTU/hour input	Low 10,500 High 38,400	Low 10,500 High 36,500
BTU/hour output	Low 8,400 High 30,720	Low 8,400 High 29,200

Features

- Restarts automatically when ignition or combustion fails.
- Clean Heating Forced Flue Type
- Easy Operation One-Touch Ignition
- Sensible Temperature Control Feature
- Comfortable Room Temperature Control and Display
- Warm Air Outlet at Floor Level (keeps your feet warm)
- Function Lock
- Room Temperature Setting Memory
- Clean the Air Filter - Indicator Lamp
- Energy Saving Economy Setting
- Humidifier Tray
- Air Flow Directional Louvers
- Direct Vent Easily Installed
- Proportional Heating Variable Capacity
- Hush! Quiet Operation
- Modern Design Minimizes Floor Space Requirements
- Fault Code Message Display

Flue Manifolds

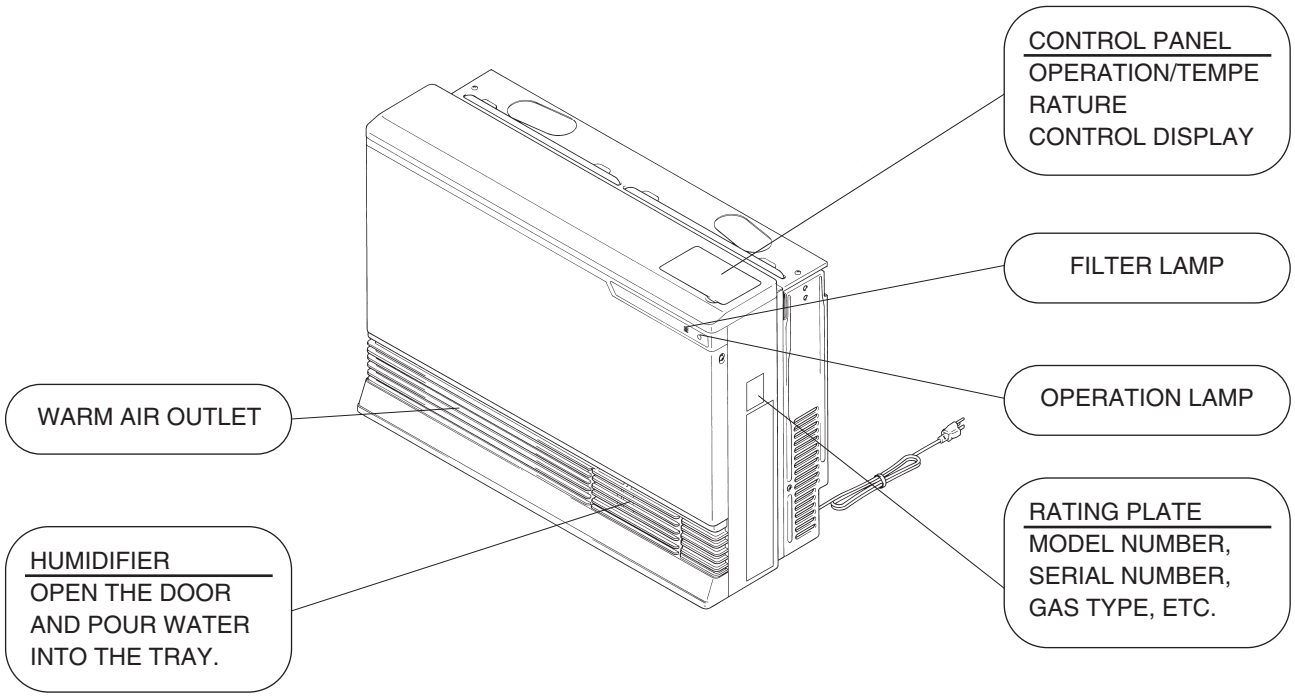
The following flue manifold sizes are available for different wall thicknesses:

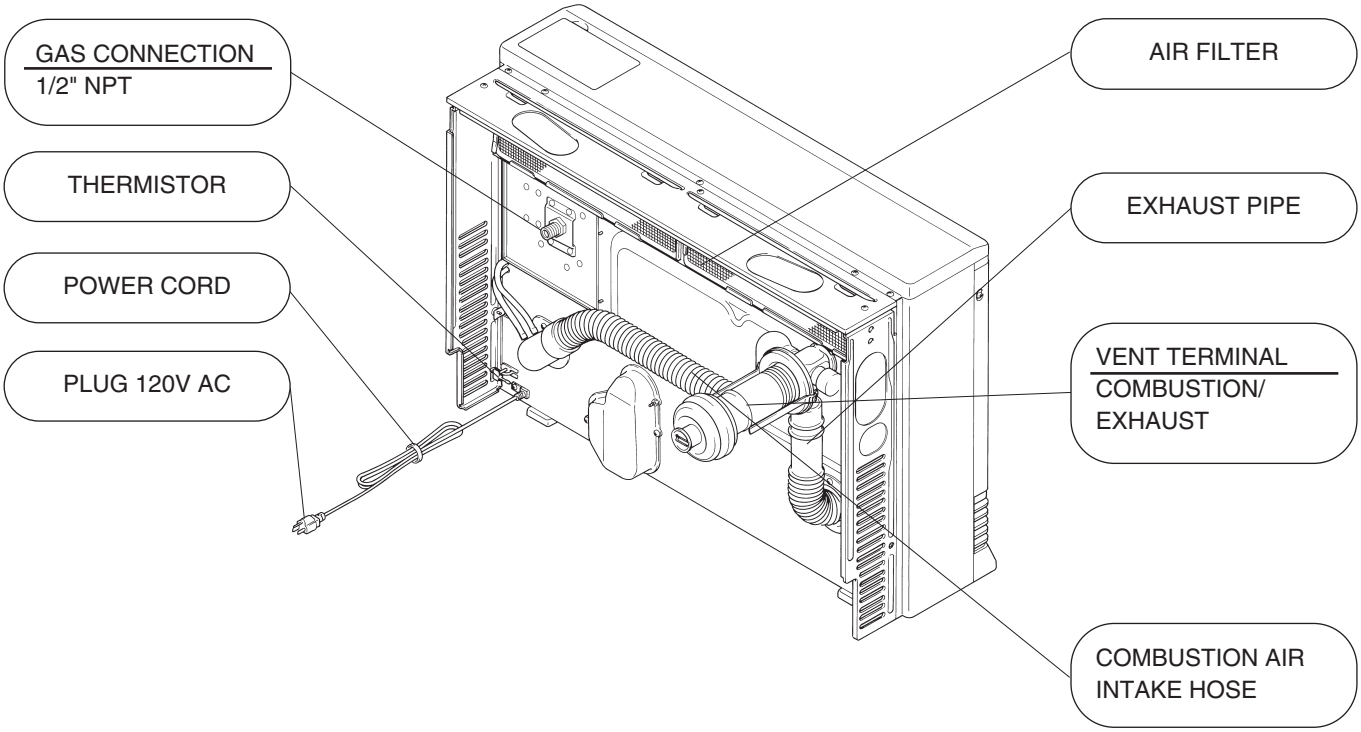


Name	Kit No.	fits walls
S Vent Kit	FOT-150	3 - 4 1/2 in (75 - 115 mm)
A Vent Kit	FOT-151	4 1/2 - 9 1/2 in (115 - 240 mm)
B Vent Kit	FOT-152	9 1/2 - 15 3/4 in (240 - 400mm)
C Vent Kit	FOT-153	15 3/4 - 23 5/8 in (400 - 600 mm)
D Vent Kit	FOT-154	23 5/8 - 31 1/2 in (600 - 800 mm)

Operating Instructions

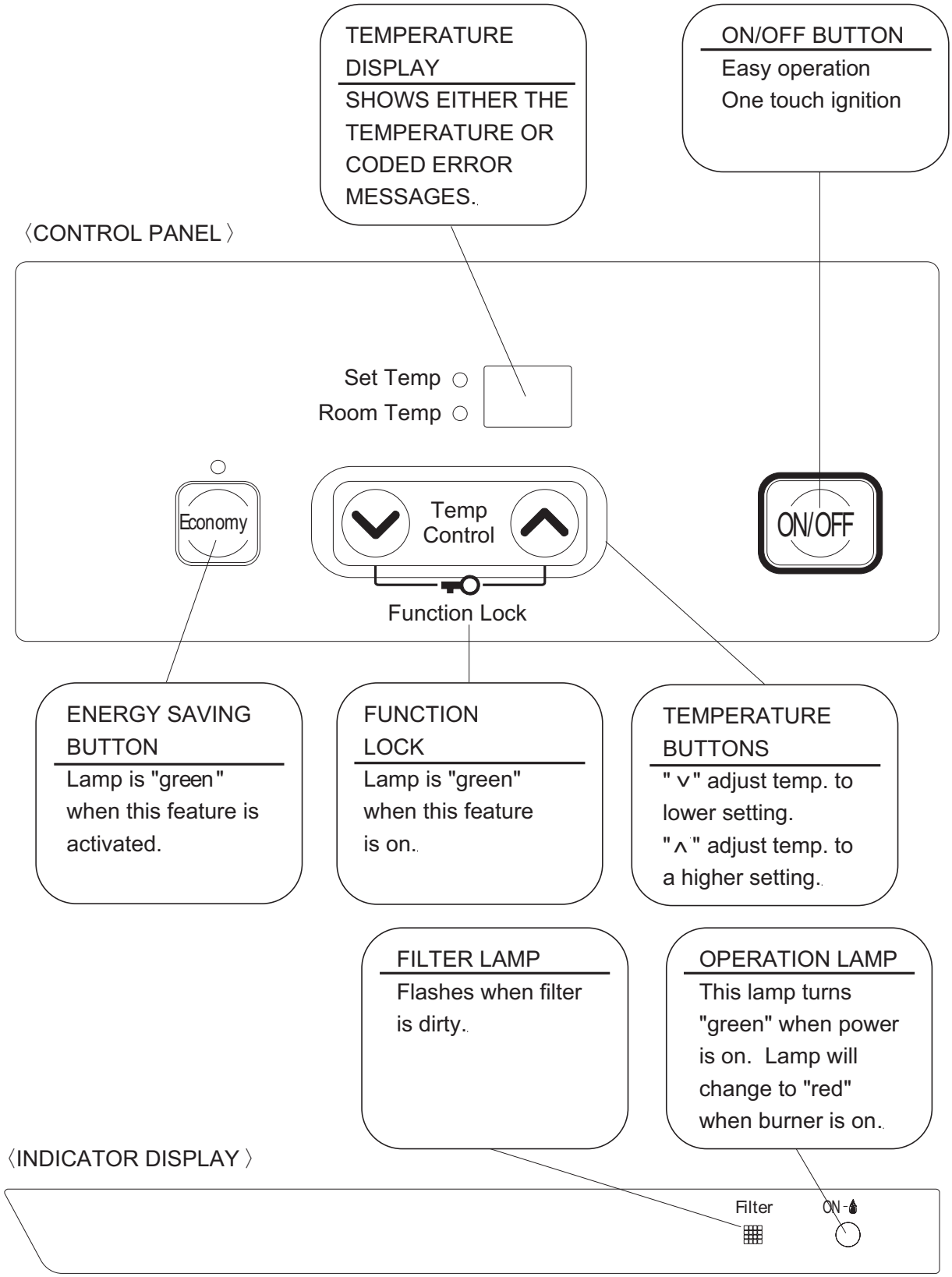
Getting to know your new heating appliance





Control Panel

All buttons beep when operated.



Turning the heater ON

When you press and release the ON/OFF button, the Temperature Level lamps will illuminate, the combustion fan will begin to run, and the spark will ignite the main burner.

This heater has an automatic ignition system. When the main burner has lit, the combustion lamp will glow red, and the spark will stop.

If ignition does not occur after 15 seconds, the appliance will automatically turn off and the Temperature Level lamps will flash indicating a fault code. This may occur when using the appliance for the first time or if it has not been used for a while. Try operating the appliance again.

There may be a smell of burning dust or oil the first time the heater is lit or when the heater has been out of operation for a long time.

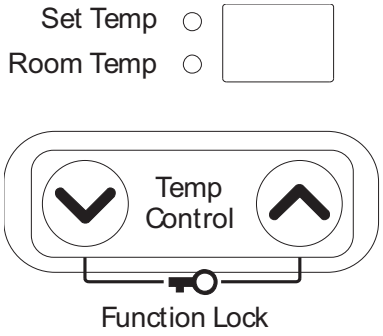
The appliance may make noises after ignition or when it is turned off. This is normal and is due to the thermal expansion or contraction of its components.

Turning the heater OFF

Press the ON/OFF button. Do not turn off by unplugging at the power outlet.

The fan will continue to run for a short time to prevent the internal components from overheating.

Adjusting the Temperature



The first time that the appliance is turned on, the preset temperature of 72° F will be shown on the display. Every time the temperature setting is changed, that temperature setting will be the latest data appearing on the display the next time the appliance is turned on.

To change the temperature setting, adjust the temperature control buttons until the desire setting is indicated.

When the desired temperature has been set, 10 seconds later, the display will show the current room temperature.

The thermostat automatically modulates the burner and the fan to maintain the temperature setting.

The temperature settings available are:

- LO - burner is on minimum combustion
- 60° F - 80° F in two degree increments
- HI - burner is on maximum combustion

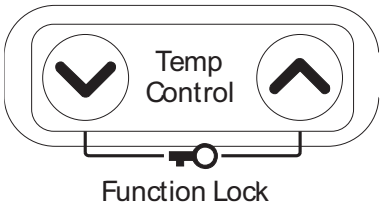
Economy Mode

Pressing the Economy button will cause the appliance to go into Economy Mode and the green lamp will glow. This results in the temperature setting being reduced by 2° F, 30 minutes after the room temperature has reached the temperature setting. After another 30 minutes the temperature setting is reduced another 2° F. This could result in the temperature setting being reduced by a maximum of 4° F. The intent of this mode is to save energy.

When the heater is running at the LO setting, the Economy Mode does not function.

Lock

This feature locks the buttons to prevent unintended operation.



Press the up and down buttons to activate and the lamp will glow. Pressing and holding the up and down buttons for two seconds will disengage the Lock.

If the Lock is engaged while the unit is operating, all buttons will be disabled except for the ON/OFF button.

If the Lock is engaged while the unit is off, then all buttons will be disabled. The Lock must be disengaged in order to turn the unit on.

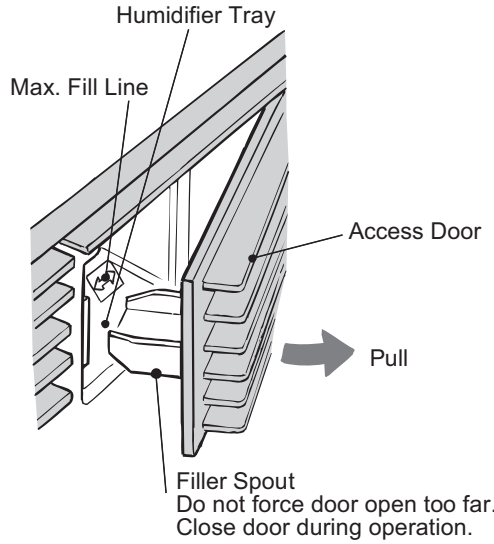
Adding Water to the Humidifier

⚠ CAUTION Do not fill the tray while the appliance is in operation. Close the door after filling. The humidifier tray and surrounding area are hot when the appliance is on.

To fill the tray, open the door as shown in the diagram and pour water into the tray using the spout built into the door. The air will be humidified as it passes over the water in the tray.

During operation a small amount of condensation is produced in the flue system and drains into the humidifier tray.

If the water overflows from the water level hole, then do not add any more water.



Sensible Temperature Control

The sensible temperature control feature allows comfortable heating which matches the conditions in the room.

Based on the information collected by the room temperature thermistor when the heating starts, the heating capacity is automatically adjusted to achieve a comfortable heating effect and to reach the temperature setting quickly.

Filter Lamp

If the filter lamp flashes during operation, check the air filter for dust. If dust is present, clean the filter. See the Care and Maintenance section. Turn the heater off before cleaning the filter.

Adjusting Air Flow Direction

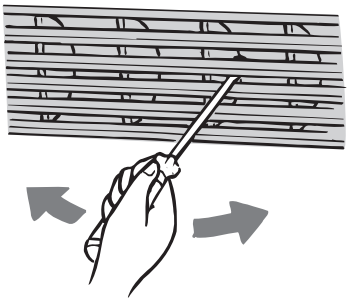
⚠ CAUTION Do not adjust the air flow louvers while warm air is flowing.

The vertical louvers may be adjusted to move the air flow more to the right or to the left.

Use a screw driver or similar object to bend each louver to the desired position.

Do not bend repeatedly (no more than 5 times) or else the louver will break.

The horizontal louver (which determines the vertical air flow direction) is fixed and cannot be adjusted.



Maintenance

All maintenance and service are to be performed by a qualified service technician, preferably one who has attended Rinnai service training classes on the Direct Vent products.

The appliance should be inspected annually by a qualified service technician. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that control compartments, burners, and circulating air passage ways of the appliance be kept clean.

⚠ CAUTION Prevent dust from accumulating on the power cord, side covers, and parts behind the appliance.

Any screen or guard removed for servicing the appliance must be replaced prior to operating the appliance. Clean as follows:

1. Turn heat off. Allow to cool for one hour.
2. Remove the front panel by removing two screws.
3. Use pressurized air to remove dust from the main burner, heat exchanger, and fan blades.
4. Use soft dry cloth to wipe cabinet.

Do not use wet cloth or spray cleaners on the burner.

The flue should be inspected annually for blockages or damage.

Motors are permanently lubricated and do not need periodic lubrication. Keep fan and motor free of dust and dirt by cleaning annually.

Verify proper operation after servicing.

Care of Exterior

Dampen soft cloth with warm water. Wring water out well and wipe the unit.

Do not use volatile substances such as benzene or thinners. They cause fading of the paint and deformation of the resin.

Snow Accumulation

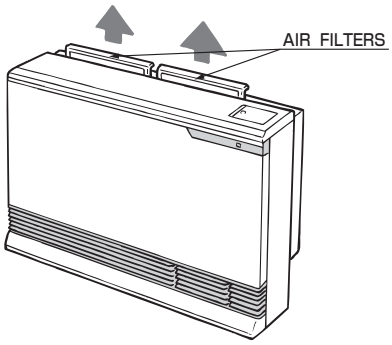
Keep the area around flue terminal free of snow and ice. The appliance will not function properly if the intake air or exhaust is impeded by obstructions.

Refer to the Flue Terminal Clearances. The clearance in Ref. A should be maintained from any snow accumulation.

Filters

Dirty filters reduce the air flow and the appliance's ability to produce heat. The filters should be cleaned frequently during the heating season. If the filters become blocked the filter indicator lamp will flash and the appliance will beep. Eventually the appliance will turn off and the Temperature Level lamp 14 will light, indicating a fault code.

To clean the filters, the appliance should be OFF and cool. Remove the filter and clean it using a soft dry cloth or vacuum. If the filter is greasy wash with warm soapy water, rinse, and dry completely.



Visual Inspection of Flame

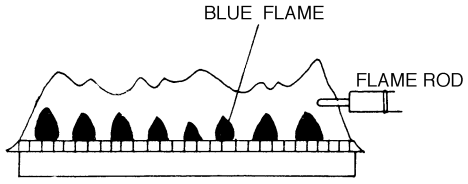
Check that the burner flames are operating normally. The flame can be seen through the circular window through the louvers.

When operating normally the burner flame should appear as long, clear, blue, stable, streaks. Yellow flames or an orange color is abnormal and maintenance is required.

VISUAL CHECK

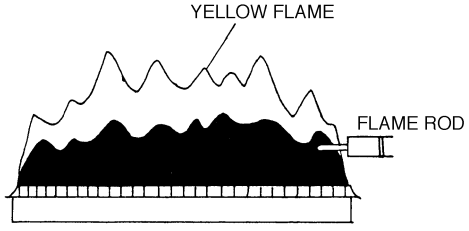
SATISFACTORY

FRONT VIEW



UNSATISFACTORY

FRONT VIEW



Before Making a Service Call

Before making a service call please check the following:

■ At Ignition:

Heater does not operate.	➡	Is the heater plugged in? Have the fuses or breaker blown at the fuse box / breaker panel? Is there a power failure? Is the air filter blocked? Is anything blocking the outlet for the hot air? Is the flue blocked?
Warm air does not flow when the burner lights.	➡	The fan is started automatically after a short delay. This is to allow the heat exchanger to warm up, helping to avoid cold draughts.
Smoke or strange smells are produced on the first trial light up after installation.	➡	This is caused by grease or oil and dust on the heat exchanger and will stop after a short time.
Sharp clicking noises at ignition, or when unit cuts down on the thermostat, or goes out.	➡	This is simply expansion noise from the heat exchanger.

■ During Combustion:

Clunking noise when the thermostat operates.	➡	This is the sound of the solenoid gas valves opening and closing.
Unit is not heating room.	➡	Is the air filter blocked? Is the set temperature high enough? Is the warm air outlet blocked by anything? Are the doors and windows of the room closed? Was the appliance correctly sized for the space?
Air filter is blocked or the louvers are blocked or obstructed.	➡	Allow heater to cool, clean air filter, operate again.
Heater will not re-ignite after overheating.	➡	Even after unit has cooled down, the heater does not ignite again. Repair is necessary. Contact a qualified / authorized service provider.

■ When the unit is turned off.

Convection fan continues to run after turning OFF.	➡	This is to remove the residual heat from the heat exchanger. The fan will stop when the heater cools down.

■ Other Points:

Steam is discharged from the flue terminal .	➡	High efficiency appliances tend to discharge water vapor on cold days. This is normal.
Unit cuts off without apparent reason.	➡	Check whether filters are blocked. Dirty filters will cause the heater to overheat.
Power Failure.	➡	Switch OFF, then ON again when power is restored to re-set controls.

Fault Codes

If there is a malfunction the appliance may shut down as a safety precaution and display a fault code to assist in diagnosing the problem. The fault code will flash in the display on the control panel. When making a service call, this code will assist with diagnosing the fault.

You may be able to clear the fault code by turning the heater off and then on again. If the fault code remains or returns on the next operation, contact Rinnai or your nearest service agent and arrange for a service call.

CODE DISPLAYED	FAULT	REMEDY
11	Ignition Failure	Check that gas is turned ON. Check that the vent termination is not blocked. Refer to the Restart Function explanation. Service call if repeated.
14	Overheat	Clean filter. Service call if repeated. [1]
16	Room Overheat	Lower room temperature to less than 104°F (40°C).
31	Room Temperature Sensor Faulty	Service call.
32		
33	Overheat Temperature Sensor Faulty	Service call.
34		
49	Sensor Breakdown	Service call.
53	Sparker Failure	Service call.
61	Combustion Fan Failure	Service call.
70	Faulty ON/OFF Switch	Service call.
71	Faulty Solenoids	Service call.
72	Faulty Flame Rod	Service call.
73	Communication Error	Turn heater OFF, then ON again.
99	Flue Block	Check around the flue terminal for blockage. [2]

[1] If the fusible link needs replacement, it must be done by a qualified service agency. In addition, the cause of the overheat needs to be determined. The fusible link is a one use safety device that breaks to shut off the appliance.

[2] Remove any obstructions. The flue needs to be kept clear to expel exhaust gases. If the appliance fails to operate contact a qualified service agency.

Restart Function

If the appliance fails to ignite, the appliance will attempt ignition after 1 hour. The “Ignition Failure” fault code, 11, will appear during that hour and disappears after a successful ignition. If ignition fails again, then the fault code will remain and another attempt to ignite will occur in 1 hour. The fault code is not stored in the fault code history.

If the flame is extinguished during forced combustion then the appliance will attempt ignition after 1 hour. The “Ignition Failure” fault code, 11, will appear during that hour and disappears after a successful ignition. Forced combustion takes place for about 15 seconds after ignition. After this time, the temperature control logic controls the combustion.

If the flame is extinguished (burner combustion failure) while the temperature control logic is operating the appliance, then the appliance will immediately attempt ignition. No fault code will appear.

Troubleshooting

Problem / Cause	No ON indicator	Burner doesn't ignite	Unusual combustion	Combustion stops during operation	Smell of gas	Noisy ignition	Takes too long to warm the room	Remedy
Not Plugged In	●	●						Plug In
Power Failure	●	●		●				Push On/Off button to attempt restart after power is restored.
(Initial Installation) Air In Gas Pipe		●						Purge air (Installer)
Gas Filter Blocked		●	●				●	Service Call
Miss Ignition	●	●						Service Call
Flue terminal obstructed			●	●		●		Clear obstruction
Flue manifold not connected					●	●		Service Call
Louver obstructed				●			●	Clear obstruction
Air filter blocked				●			●	Clean filter
Gas Escape					●			Service Call
Function Lock Set		●						Cancel Function Lock
Gas turned off at meter, tank, or valve.	●	●						Turn gas on

Installation Instructions

General Instructions

⚠ WARNING

Do not use substitute materials.

Use only parts certified with the appliance.

- A qualified service technician should install the appliance and inspect it before use.
- If you move, check the gas type in your new area. The local gas authority will be able to advise on local regulations.
- The installation must conform with local codes or, in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1/NFPA 54*, or the *Natural Gas and Propane Installation Code, CSA B149.1*.
- A manufactured home (USA only) or mobile home OEM installation must conform with the *Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280*, or, when such a standard is not applicable, the standard for *Manufactured Home Installations, ANSI/NCSBCS A225.1*, or the standard for *Gas Equipped Recreational Vehicles and Mobile Housing, CSA Z240.4*.
- The appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70*, or the *Canadian Electrical Code, CSA C22.1.*
- Appliance input ratings are based on sea level operation and need not be changed for operation up to 2000 ft (609.9 m) elevation. For operation at elevations above 2000 ft (609.9 m), refer to the Conversion Manual.
- The appliance and its appliance main gas valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).
- The appliance must be isolated from the gas supply piping system by closing its equipment shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).
- If the flooring is carpet, tile, or other combustible material other than wood, then the appliance must be installed on a metal or wood panel extending the full width and depth of the appliance.
- This appliance discharges a large volume of warm air next to the floor. Any particles in the air such as cigarette smoke could cause discoloration in nylon carpets containing dyes or vinyl surfaces.
- This appliance is not designed to built in.
- This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases unless a certified kit is used. If conversion of the unit is needed, conversions must be performed by a qualified service provider at the owner's expense.
- This appliance must not be connected to a chimney flue serving a separate solid-fuel burning appliance.
- Rinnai suggests that a dedicated electrical circuit with a 120VAC, 60 hz, 10 amp power source be used.
- A test plug are provided for testing of manifold differential pressure. It is located on the modulating gas valve.
- The appliance should be correctly sized for the space it is required to heat.
- Follow the installations instructions and those in *Care and Maintenance* for adequate combustion and ventilation air.
- The flow of combustion and ventilation air shall not be obstructed.
- Clearances to access the appliance during servicing are 2 inches (50 mm) from the sides, 40 inches (1 m) from the front, and 10 inches (250 mm) from the top.

NOTICE	If installation is at a location above 2001 ft (610 m), then follow the Adjust Gas Pressure Settings procedure in the Conversion Manual. If installation is at or below 2000 ft (610 m) then the pressure settings do not need to be adjusted.

Gas Connection

⚠ WARNING

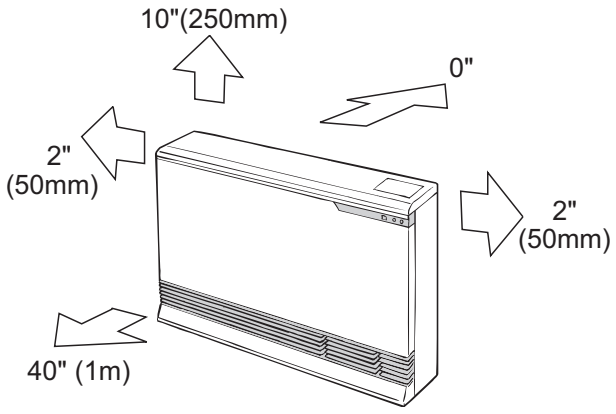
When connecting the gas valve or other gas components in the gas line, use a backup wrench to ensure the connection is gas tight.

- The gas supply line shall be gas tight, sized and so installed as to provide a supply of a gas sufficient to meet the maximum demand of the heater without loss of pressure.
- A shut off valve and appliance connector valve should be installed in the upstream of the gas line to permit servicing.
- Flexible pipe and any appliance connector valve used for gas piping shall be types approved by nationally recognized agencies.
- Any compound used on the threaded joint of the gas piping shall be a type which resists the action of liquefied petroleum gas (propane / LPG).
- After completion of gas pipe connections all joints including the heater must be checked for gas tightness by means of leak detector solution, soap and water, or an equivalent nonflammable solution, as applicable. (Since some leak test solutions, including soap and water, may cause corrosion or stress cracking, the piping shall be rinsed with water after testing, unless it has been determined that the leak test solution is non-corrosive.)
- Check the gas supply pressure immediately upstream at a location provided by the gas company. Supplied gas pressure must be within the limits shown in the Specifications section.
- Refer to an approved pipe sizing chart if in doubt about the size of the gas line.
- Install manual gas cut-off valve so that it can be accessed for easy operation. Do not conceal manual cut-off valve behind back spacer.
- An elbow is supplied to attach to the gas line if needed.

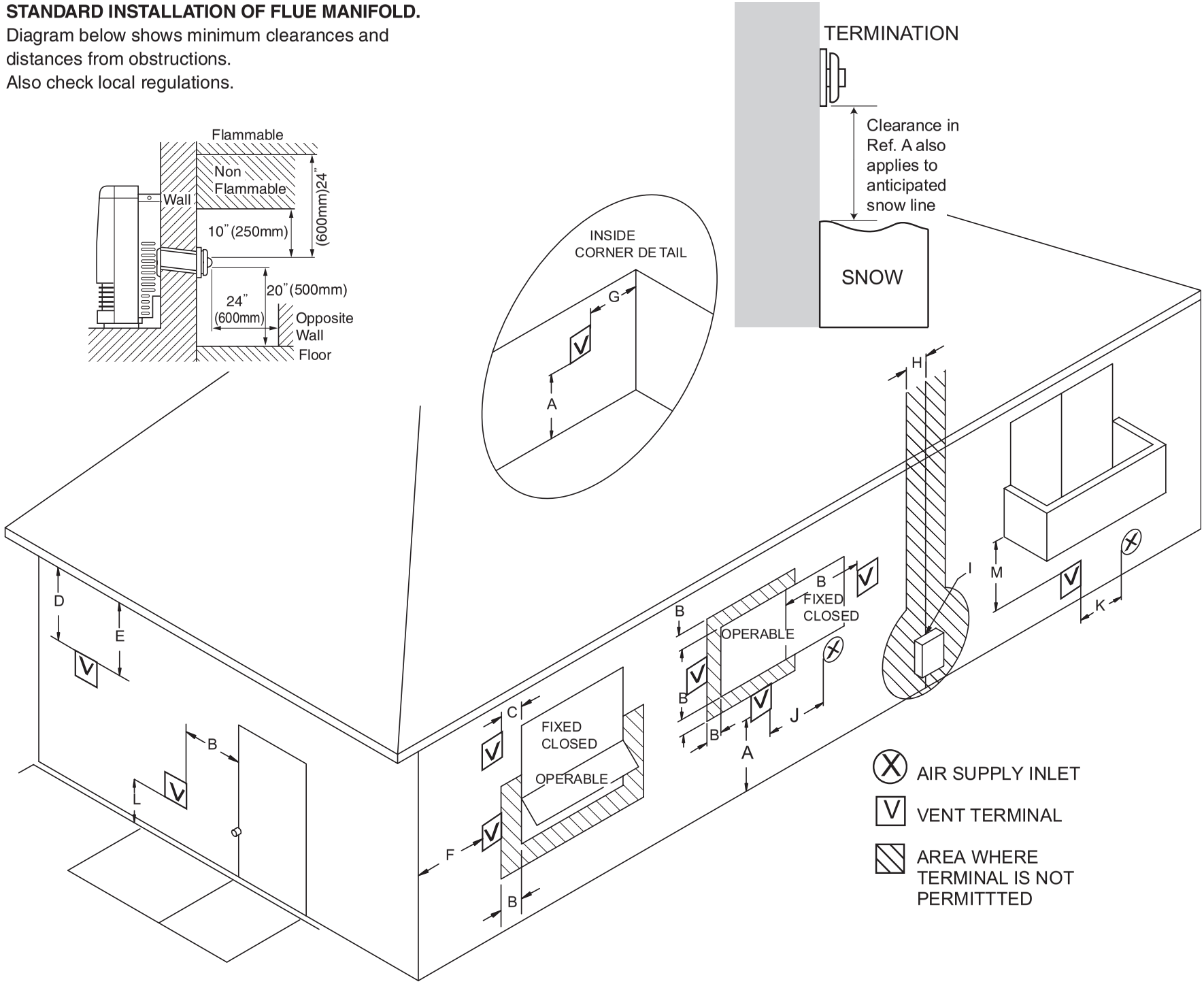
Clearances to Combustibles

When determining where to install the appliance the clearances to combustibles shown in the figure must be followed. Also refer to the Safety Behaviors and Practices section. The clearance to combustibles from the top is zero.

Rinnai recommends 10” (250 mm) clearance on both sides for servicing.



STANDARD INSTALLATION OF FLUE MANIFOLD.
Diagram below shows minimum clearances and distances from obstructions.
Also check local regulations.



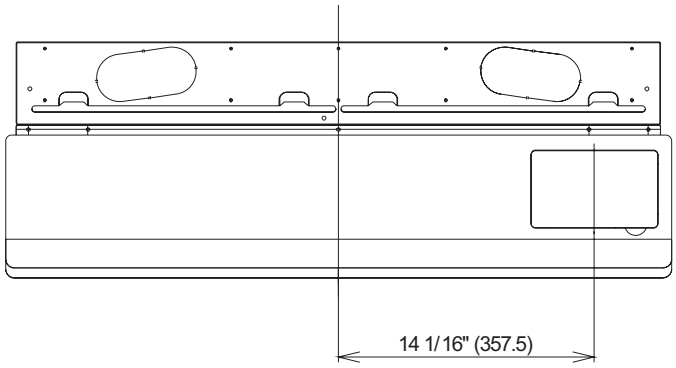
Ref	Description	Canadian Installations	US Installations
A	Clearance above grade, veranda, porch, deck, or balcony. (Take into account the anticipated snow line)	6 inches (15 cm) for appliances ≤ 10,000 BTUh; 9 inches (23 cm) for appliances > 10,000 BTUh and ≤ 50,000 BTUh, 12 inches (30 cm) for appliances > 50,000 BTUh	6 inches (15 cm) for appliances ≤ 10,000 BTUh; 9 inches (23 cm) for appliances > 10,000 BTUh and ≤ 50,000 BTUh, 12 inches (30 cm) for appliances > 50,000 BTUh
B	Clearance to window or door that may be opened	12 inches (30 cm)	9 inches (23 cm)
C	Clearance to permanently closed window	*	*
D	Vertical clearance to ventilated soffit, located above the terminal within a horizontal distance of 2 feet (61 cm) from the center line of the terminal	*	*
E	Clearance to unventilated soffit	*	*
F	Clearance to outside corner	*	*
G	Clearance to inside corner	20 inches (50 cm)	20 inches (50 cm)
H	Clearance to each side of center line extended above meter/regulator assembly	3 feet (91 cm) within a height 15 feet (4.5 m) above the meter/regulator assembly	*
I	Clearance to service regulator vent outlet	3 feet (91 cm)	*
J	Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	12 inches (30 cm)	9 inches (23 cm)
K	Clearance to a mechanical air supply inlet	6 feet (1.83 m)	3 feet (91 cm) above if within 10 feet (3 m) horizontally
L	Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13 m)	*
M	Clearance under veranda, porch, deck, or balcony	12 inches (30 cm) to non-flammables 24 inches (60 cm) to flammables	12 inches (30 cm) to non-flammables 24 inches (60 cm) to flammables

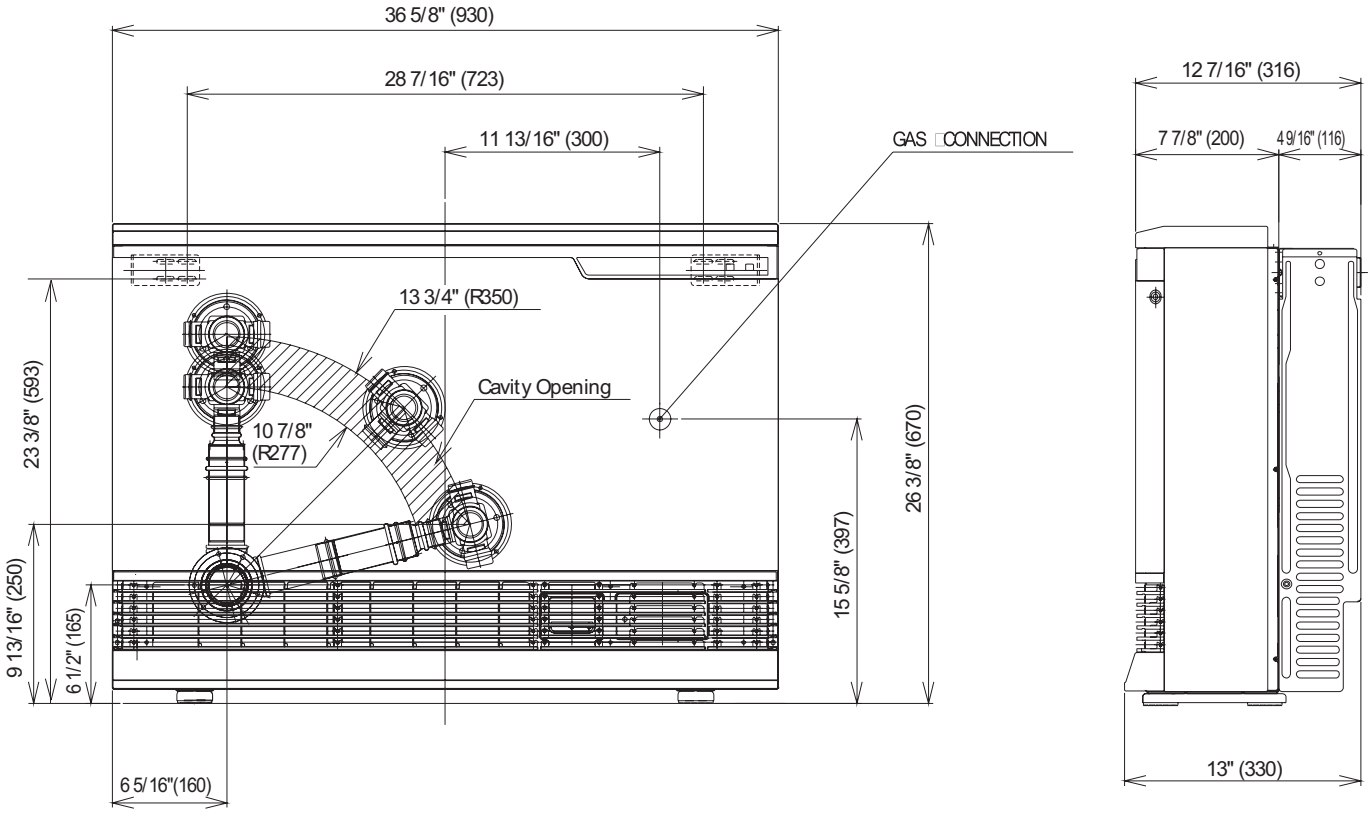
A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

* For clearances not specified in *ANSI Z223.1/NFPA 54* or *CSA B149.1*, clearances are in accordance with local installation codes and the requirements of the gas supplier.

inches (mm)


14 1/16" (357.5)

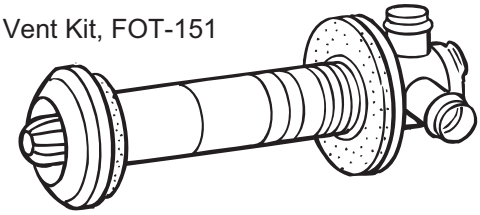

36 5/8" (930)
28 7/16" (723)
11 13/16" (300)
GAS CONNECTION
13 3/4" (R350)
Cavity Opening
10 7/8"
(R277)
23 3/8" (593)
9 13/16" (250)
6 1/2" (165)
15 5/8" (397)
26 3/8" (670)
6 5/16"(160)
12 7/16" (316)
7 7/8" (200)
4 9/16" (116)
13" (330)

Installation Parts

The following items are included with the appliance:

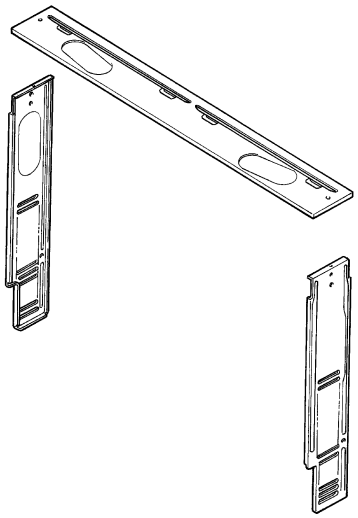
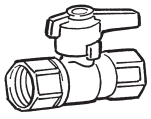
Flue Manifold 1

"A" Vent Kit, FOT-151



Spare rubber seal.....1
('A' Flue units only)

(For weatherboard installations)

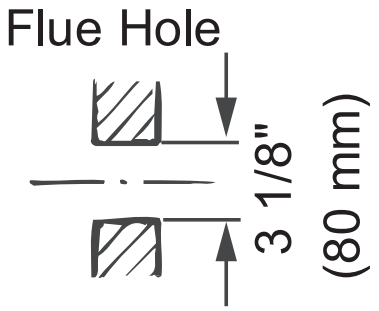
Back Spacer Set		1	Wall Brackets		2
			Insulation Clip		1
			Plastic tie for air inlet		1
			(M4)	For Back Spacer Set	7
Vent adaptor		1	(M5)	For Wall Brackets	4
Pipe stopper A&S		2	(M4× 20)	For Flue Lock Stopper	1
Pipe stopper E		1	(M4)	For Flue Manifold	3
Manual Valve Set		1	(M4.8× 32) Wood Screws	Wall Bracket Screws	7
Elbow(gas)		1	Owner's Manual Conversion Manual Template		1

Drilling Flue Hole

Ensure that there are no gas or water lines, or electrical circuits in the wall location where the flue hole is to be drilled.

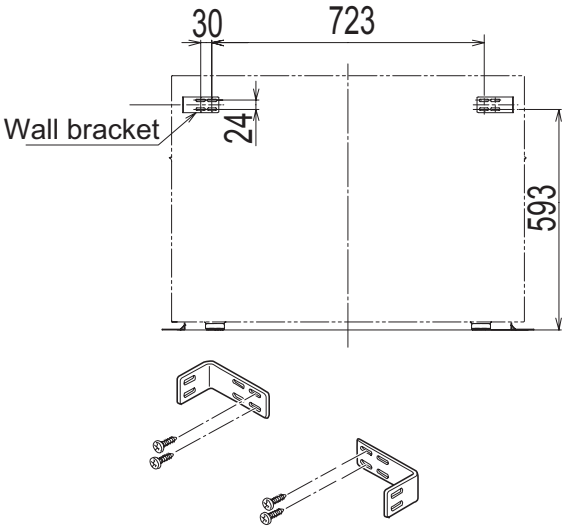
Drill the flue hole using a 3 1/8 inch (80 mm) drill. A template is provided. The center of the hole must be located anywhere within the shaded area, unless extension kits are used. See the dimensions diagram.

For weatherboard walls, drill through the center of the weatherboard from the outside first and then through the plasterboard.



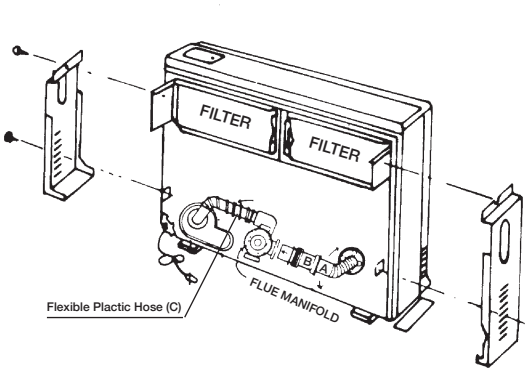
Attach Wall Brackets

Attach the wall brackets as shown. A template is provided.



Attach Back Spacers

Attach side back spacers to both sides of the appliance with 2 screws each.



Flue Manifold Installation

- The flue manifold must exhaust to the outside. Do not exhaust into other rooms.
- The flue manifold is not designed to be positioned under floors or below the heater.
- The termination cannot be vertical.
- This appliance can only be used with one of the five types of Rinnai flue kits. The flue kits and their dimensions are listed on the previous page.
- Refer to the Flue Terminal Clearances section.

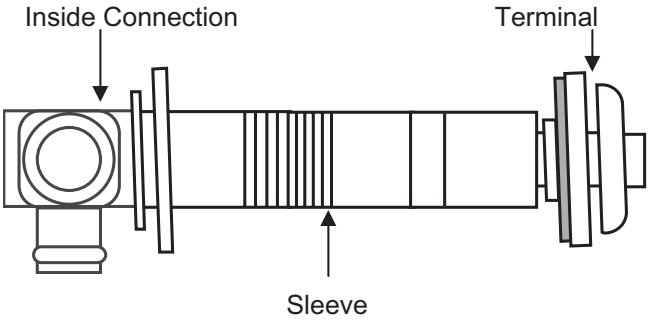
1. Disassemble the flue manifold

   The flue consists of 3 parts:

   - sleeve
   - inside connection
   - outside terminal

   Disassemble the flue manifold by first pulling out the inside connection. To remove the outer terminal pull and release the two internal ties and then pull out the outer terminal.

   Clearance to combustibles for the sleeve and flanges is zero inches.



2. Adjust the sleeve length

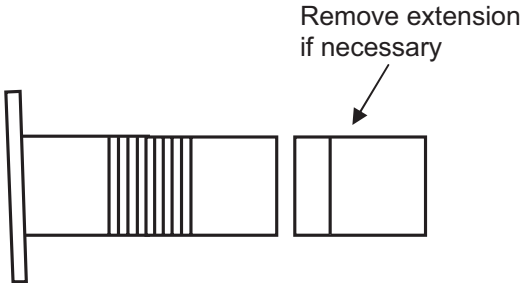
   Measure wall thickness through previously drilled 3 1/8 inch (80 mm) hole.

   The end of the sleeve should protrude 3/16 - 3/8 inch (5-10 mm) from the outside wall.

   The sleeve is threaded for adjustment. Adjust the sleeve length to wall thickness plus 3/16 - 3/8 inch (5-10 mm).

   NOTE: Do not extend beyond the red line.

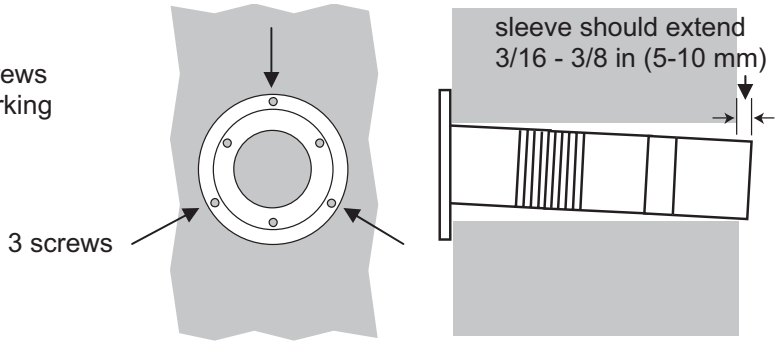
   For other than the “S” type flue manifold, if a shorter length is necessary an extension can be removed. Cut the plastic and remove the extension.



3. Attach the sleeve

   Attach to the inside wall using 3 screws arranging the flange so that the marking “TOP” is at the top.

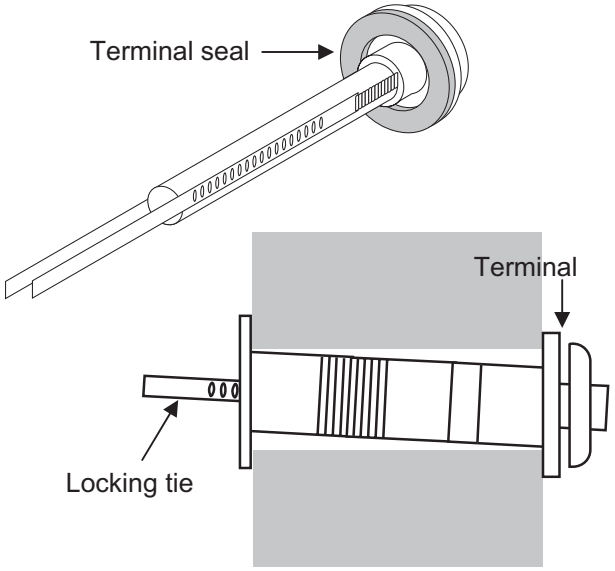
   The flange is offset 2° to allow the condensate drain to the outside.



4.Install the Terminal

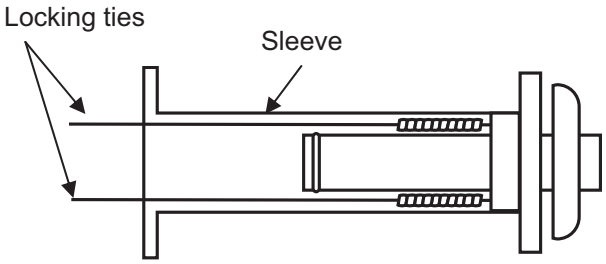
Check that the terminal seal is in place. For weatherboard walls, add the second seal next to the terminal seal to compensate for weather board angle.

From the outside insert the terminal into the sleeve with the marking “TOP” at the top. The left hand side locking tie should be marked “LEFT”.



5. Lock the ties

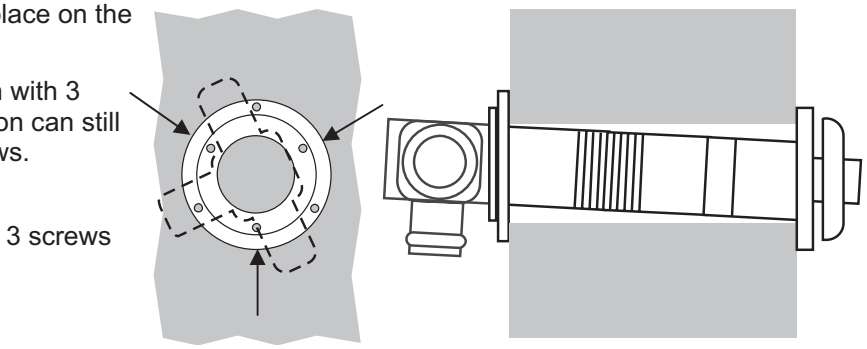
Pulling hard on the left and right hand ties, clip the ties over the notches inside the sleeve. You should be able to pull the ties 2 or 3 notches past the starting point. Cut the ties, leaving about 3/4 inch (20 mm) past the notch. Bend the ties back into the sleeve and parallel to the wall.



6. Insert Inside Connection Assembly

Push the assembly into the terminal tube, ensuring that the seal is in place on the inner tube.

Attach the inside connection with 3 screws. The inner connection can still be turned to install the screws.



Extension Kit Installation

If necessary, extension kits are available to extend the exhaust line and air intake hose between the manifold and the appliance. The maximum vent length is 13 feet (4 m) with 2 bends. The bent pipe attached to the appliance does not count toward the max limit of 2 bends. Do not allow any low points in the exhaust line where condensate will collect.

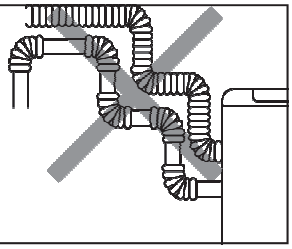
Vent extensions installed in unconditioned air space must be insulated with high temperature insulation and must be accessible.

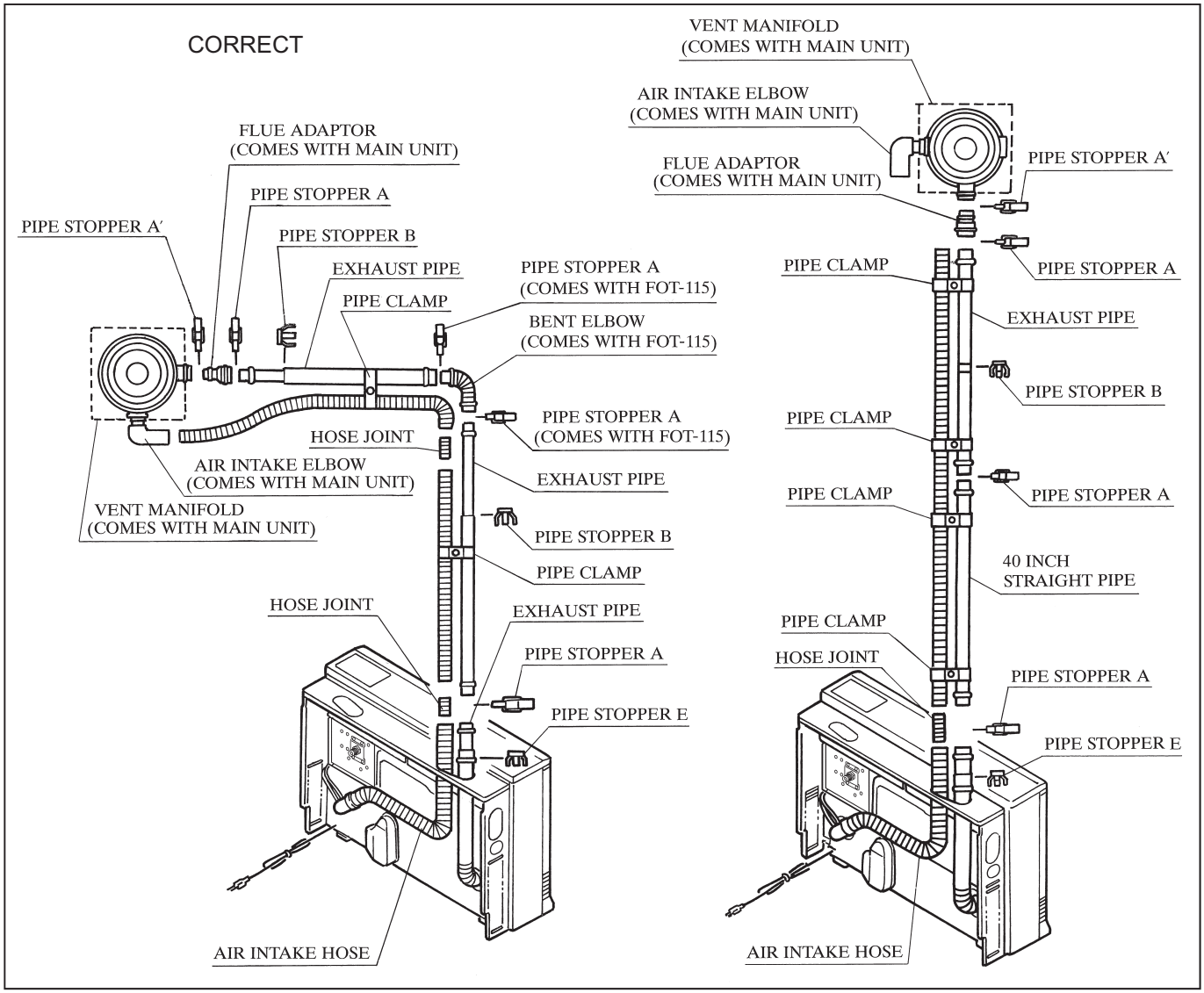
Vent extensions must not be concealed per NFPA 54 and must be accessible allowing inspection and repair. Decorative covers are available from Rinnai.

Examples

INCORRECT

- Too many bends (limit is 2)
- Air intake hose is above exhaust pipe





⚠ CAUTION Use the pipe stoppers, connectors, clamps, and screws according to these instructions in order to ensure no leakage of exhaust gases.

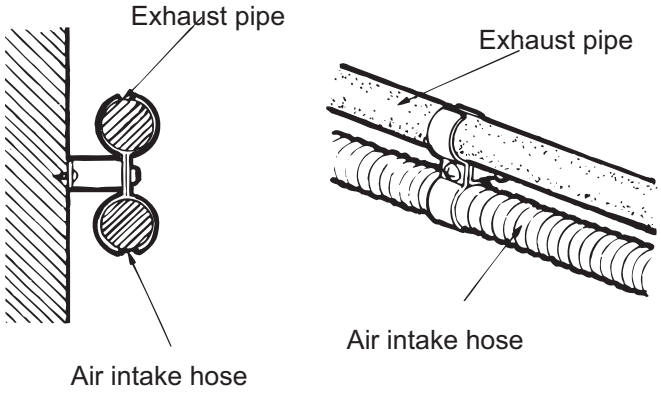
Clearances

exhaust pipe to combustibles	1 inch (25.4 mm)
exhaust pipe to non-combustibles	zero

Clamps

Both the exhaust line and air intake hose are supported by clamps which are attached to the wall. A wall fixture can be used to offset the clamp from the wall. Use Screw B to attach the wall fixture to the wall. If the wall fixture is not used then use Screw A and the nut to attach the clamp to the wall.

The air intake hose should always be underneath the exhaust line so that in case the air intake hose sags it will not come into contact with the exhaust line.



Installing the Exhaust Line

The exhaust line is connected between the bent pipe at the rear of the heater and the exhaust port on the flue manifold.

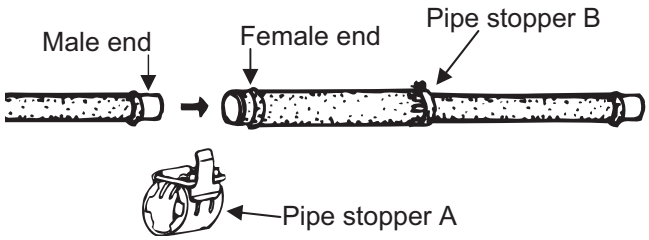
To connect exhaust pipes with other straight pipes or bends, fit the male end into the female end. Use pipe stopper A to clamp the connection.

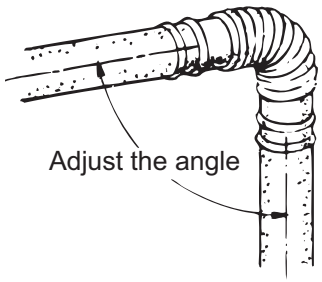
Use pipe stopper B to fix the length on the adjustable exhaust pipes. Do not extend these pipes beyond the red line.

Do not cut the exhaust pipe. Use the adjustable pipes if necessary.

To bend the elbow, insert exhaust pipes into both ends for additional leverage. Bend to desired angle.

Do not straighten the bent pipe attached to the appliance.





Connecting the Air Intake Hose

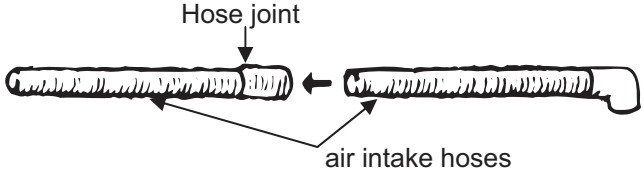
The air intake hose is connected between the air connection at the rear of the heater and the air intake port on the flue manifold.

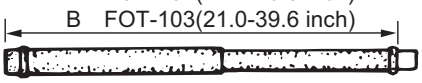
Push the air intake hose onto the flue manifold and secure with the plastic cable tie.

Join air intake hoses by screwing the hose joint half of its length into the air intake hose and then screwing another air intake hose into the hose joint.

The lengths of the air intake hose and the exhaust pipe must be the same in order for the appliance to operate properly. The hose can be cut to the required length. Deburr all rough edges. Do not cut the hose attached to the appliance.

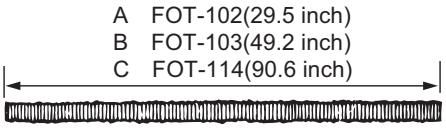
Support the air intake hose with pipe clamps.





①EXHAUST PIPE

②EXHAUST PIPE(STRAIGHT) 40 inch



③AIR INTAKE HOSE

④BENT ELBOW

⑤HOSE JOINT

Extension Kits and Parts

⑥PIPE STOPPER A

⑨PIPE CLAMP

⑫SCREW A

⑦ PIPE STOPPER B

⑩WALL-FIXTURE

⑬SCREW B

⑧ TOP STOPPER

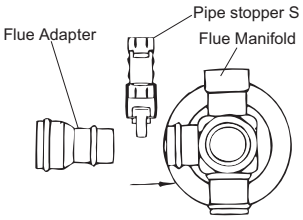
⑪NUT

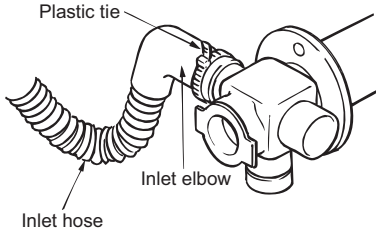
⑭O RING

Item	Description	FOT-102	FOT-103	FOT-114	FOT-115
1	Exhaust Pipe (adjustable) 11.4-20.3 in (290-515 mm)	1			
1	Exhaust Pipe (adjustable) 21.0-39.6 in (533-1005 mm)		1	1	
2	Exhaust Pipe - 40 in (1016 mm)			1	
3	Air Intake Hose - 29.5 in (750 mm)	1			
3	Air Intake Hose - 49.2 in (1.25 m)		1		
3	Air Intake Hose - 90.6 in (2.3 m)			1	
4	Bent Elbow				1
5	Hose Joint	1	1	1	
6	Pipe Stopper A	1	1	2	2
7	Pipe Stopper B	1	1	1	
8	Top Stopper	1	1	1	
9	Pipe Clamp	2 sets	3 sets	4 sets	
10	Wall Fixture	2	3	4	
11	Nut	2	3	4	
12	Screw A	2	3	4	
13	Screw B	4	6	8	
14	O Ring				1

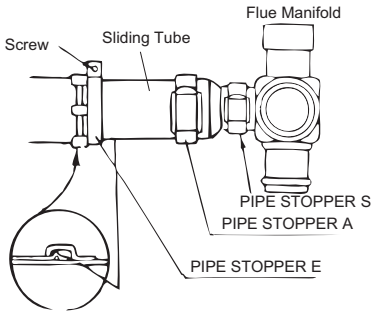
Connecting the Appliance

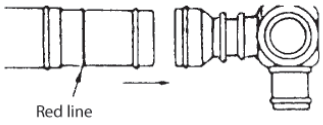
1. Attach flue adapter to the flue manifold with pipe stopper S.
2. Attach the air inlet hose to the flue manifold. Secure with plastic tie. The unused inlet is plugged with the rubber cap supplied on the manifold.



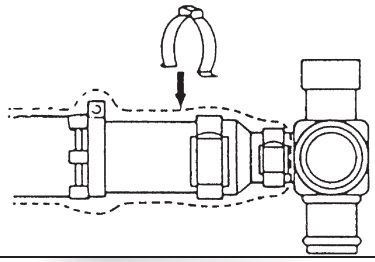


3. Connect the vent sliding tube with pipe stopper S and E. The sliding tube should not be extended beyond the red line. The red line should not be visible after sliding the tube into the vent outlet.

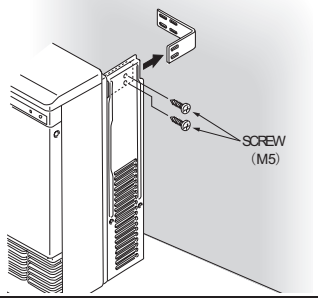




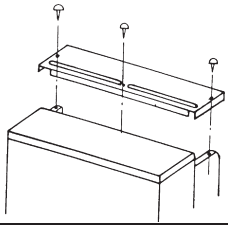
4. Slide the insulation sleeve up to the flue manifold and slip the securing clip over the sleeve as shown.



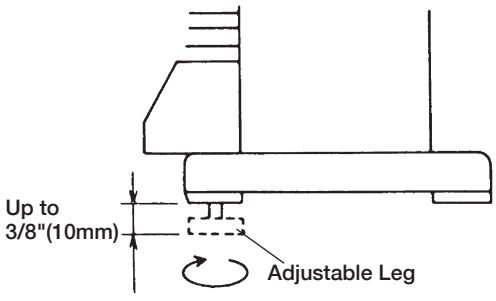
5. Attach the appliance to the wall brackets, using 2 screws at each bracket.



6. Attach the back spacer with 3 screws to the top of the appliance.



7. If necessary, the appliance can be leveled using the adjustable legs under the front right and left legs.



FOR YOUR SAFETY READ BEFORE OPERATING

⚠ WARNING If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. **BEFORE OPERATING** smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

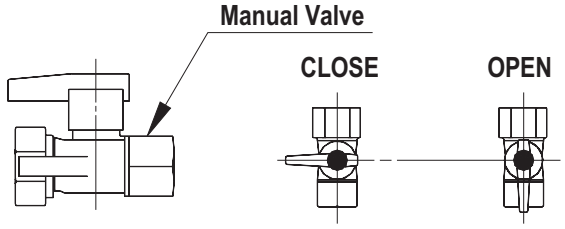
WHAT TO DO IF YOU SMELL GAS
- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, do not try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance using the ON/OFF button.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Locate the manual gas valve on the side of the heater. Turn the manual valve clockwise to the full OFF position.

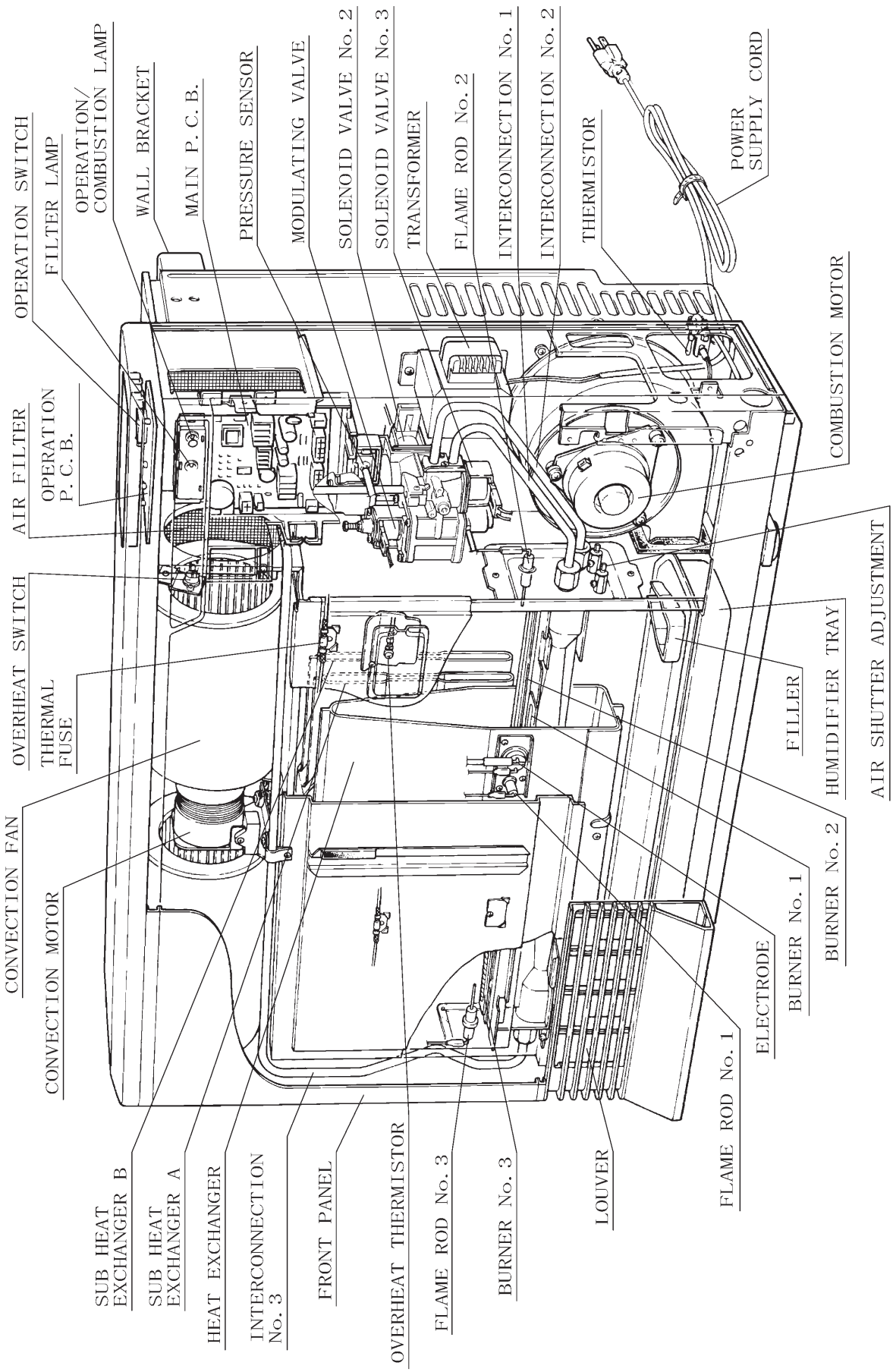


6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you don't smell gas, go to the next step.
7. Turn the manual gas valve counterclockwise to the full ON position.
8. Turn on all electric power to the appliance using the ON/OFF button.
9. Set the thermostat to desired setting.
10. Combustion indicator glows red when the burner is lit and flashes when the burner fails to ignite. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier. See manual for additional information.

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance using the ON/OFF button.
3. Locate the manual gas valve on the side of the heater. Turn the manual valve clockwise to the full OFF position.

NOTE: The fan will continue to operate until the appliance is cool. Do not turn the appliance off by unplugging it from the wall. Keep burner and control compartment clean. See installation and operating instructions.


OPERATION SWITCH
FILTER LAMP
OPERATION/ COMBUSTION LAMP
WALL BRACKET
MAIN P. C. B.
PRESSURE SENSOR
MODULATING VALVE
SOLENOID VALVE No. 2
SOLENOID VALVE No. 3
TRANSFORMER
FLAME ROD No. 2
INTERCONNECTION No. 1
INTERCONNECTION No. 2
THERMISTOR
POWER SUPPLY CORD
COMBUSTION MOTOR
AIR SHUTTER ADJUSTMENT
HUMIDIFIER TRAY
FILLER
BURNER No. 2
BURNER No. 1
ELECTRODE
FLAME ROD No. 1
LOUVER
BURNER No. 3
FLAME ROD No. 3
OVERHEAT THERMISTOR
FRONT PANEL
INTERCONNECTION No. 3
HEAT EXCHANGER
SUB HEAT EXCHANGER A
SUB HEAT EXCHANGER B
CONVECTION MOTOR
CONVECTION FAN
THERMAL FUSE
OVERHEAT SWITCH
OPERATION P. C. B.
AIR FILTER

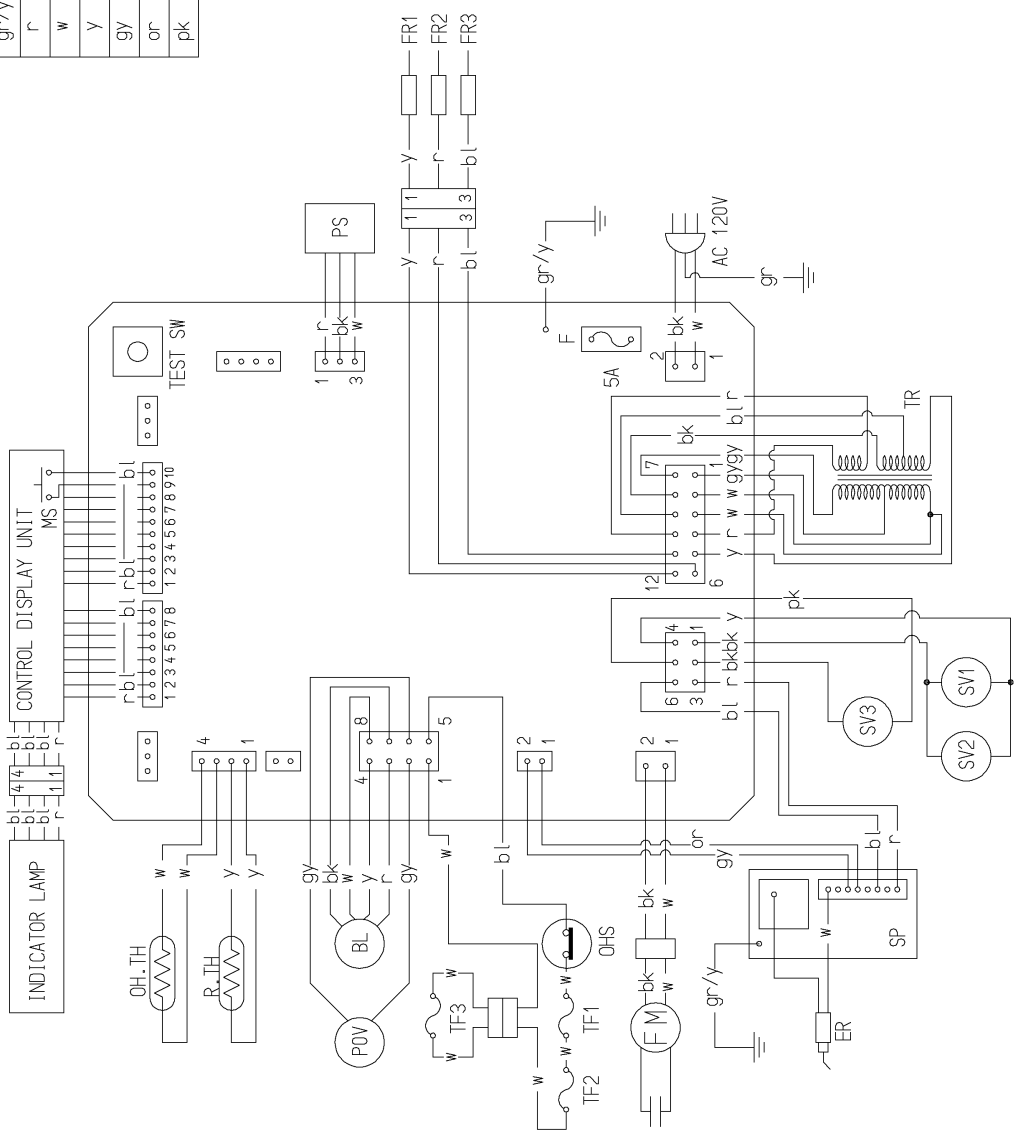
MARK	PARTS NAME
MS	MAIN SWITCH
R.TH	THERMISTOR
TF1~3	THERMAL FUSE 1~3
F	FUSE
ER	ELECTRODE
POV	MODULATING VALVE
TR	TRANSFORMER
FR1~3	FLAME ROD 1~3
OH.TH	OVER HEAT THERMISTOR
OHS	OVER HEAT SWITCH
FM	CONVECTION FAN MOTOR
SP	SPARKER
SV1~3	SOLENOID VALVE 1~3
BL	COMBUSTION FAN MOTOR
PS	PRESSURE SENSOR

CODE	COLOR
bk	black
bl	blue
gr	green
gr/y	green/yellow
r	red
w	white
y	yellow
gy	gray
or	orange
pk	pink

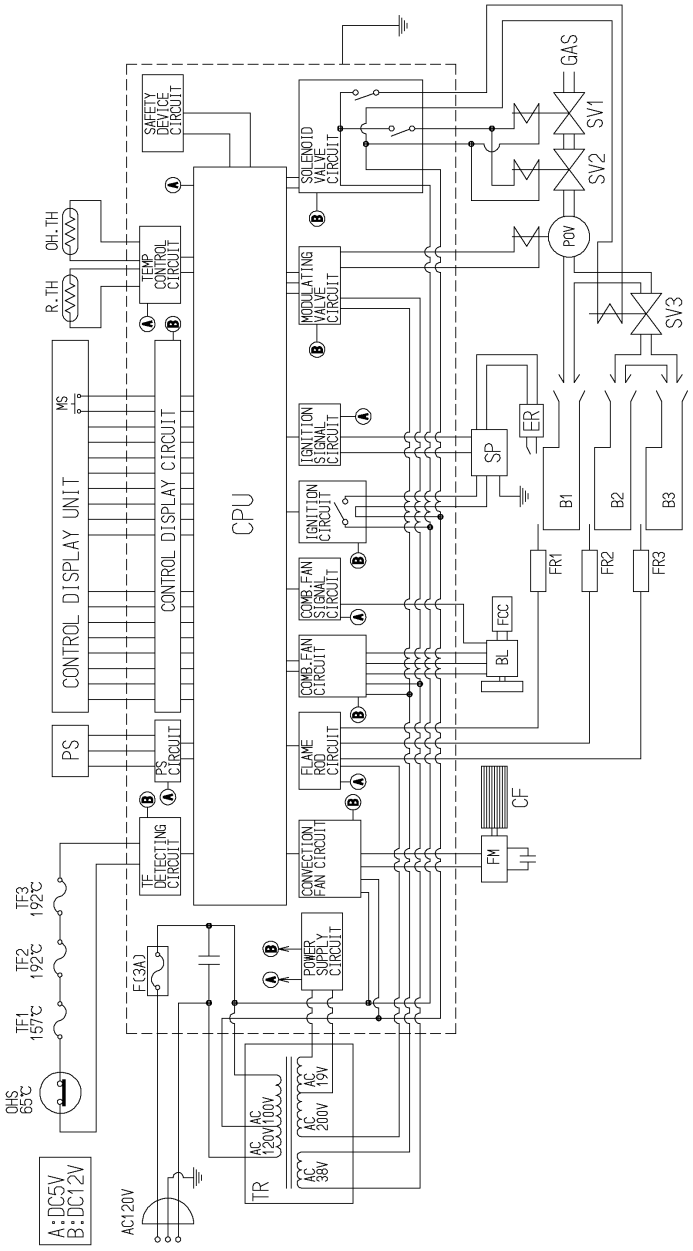
⚠ CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

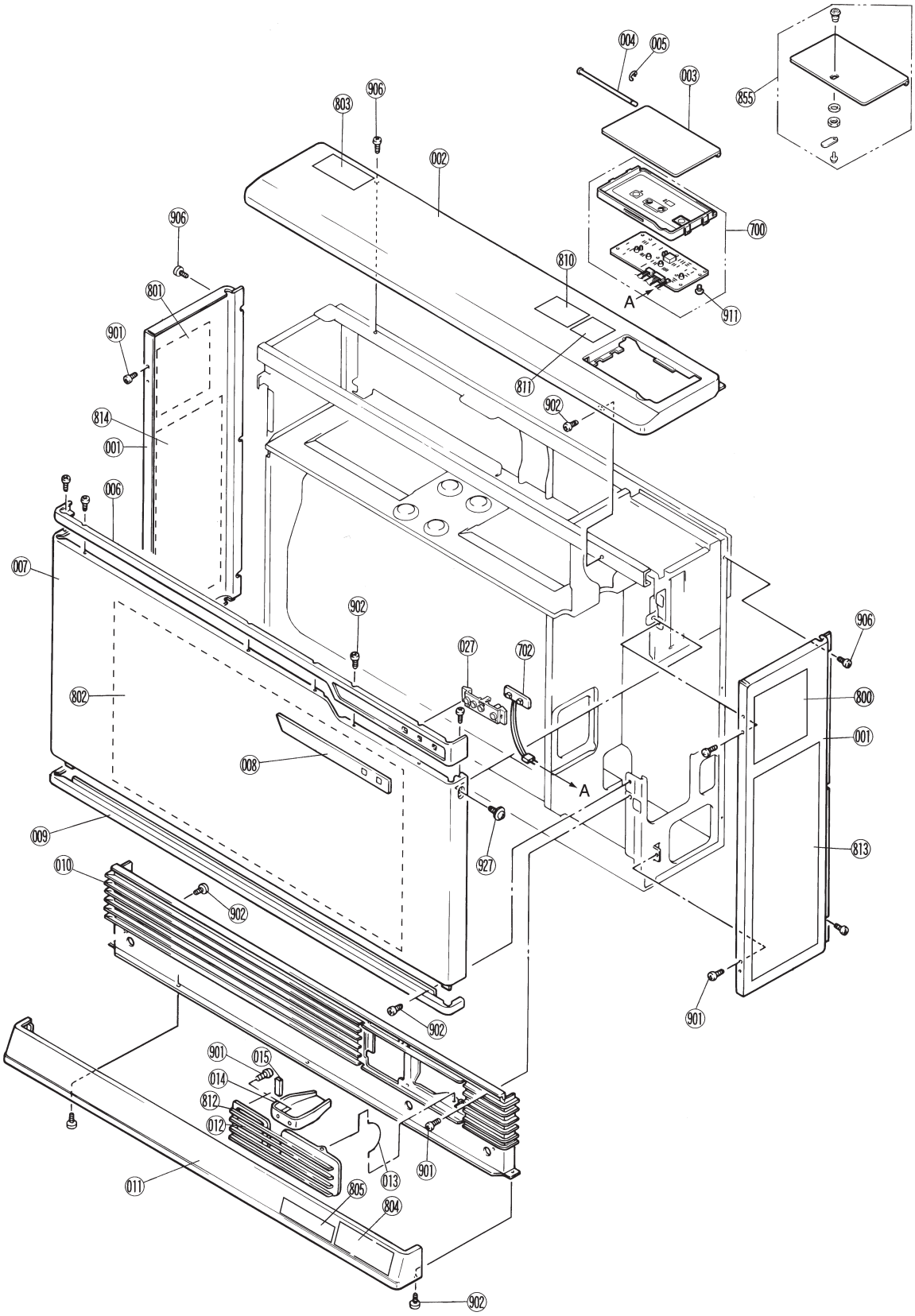
If any of the original wire as supplied with the appliance must be replaced, it must be replaced with type 18 AWG wire or its equivalent.

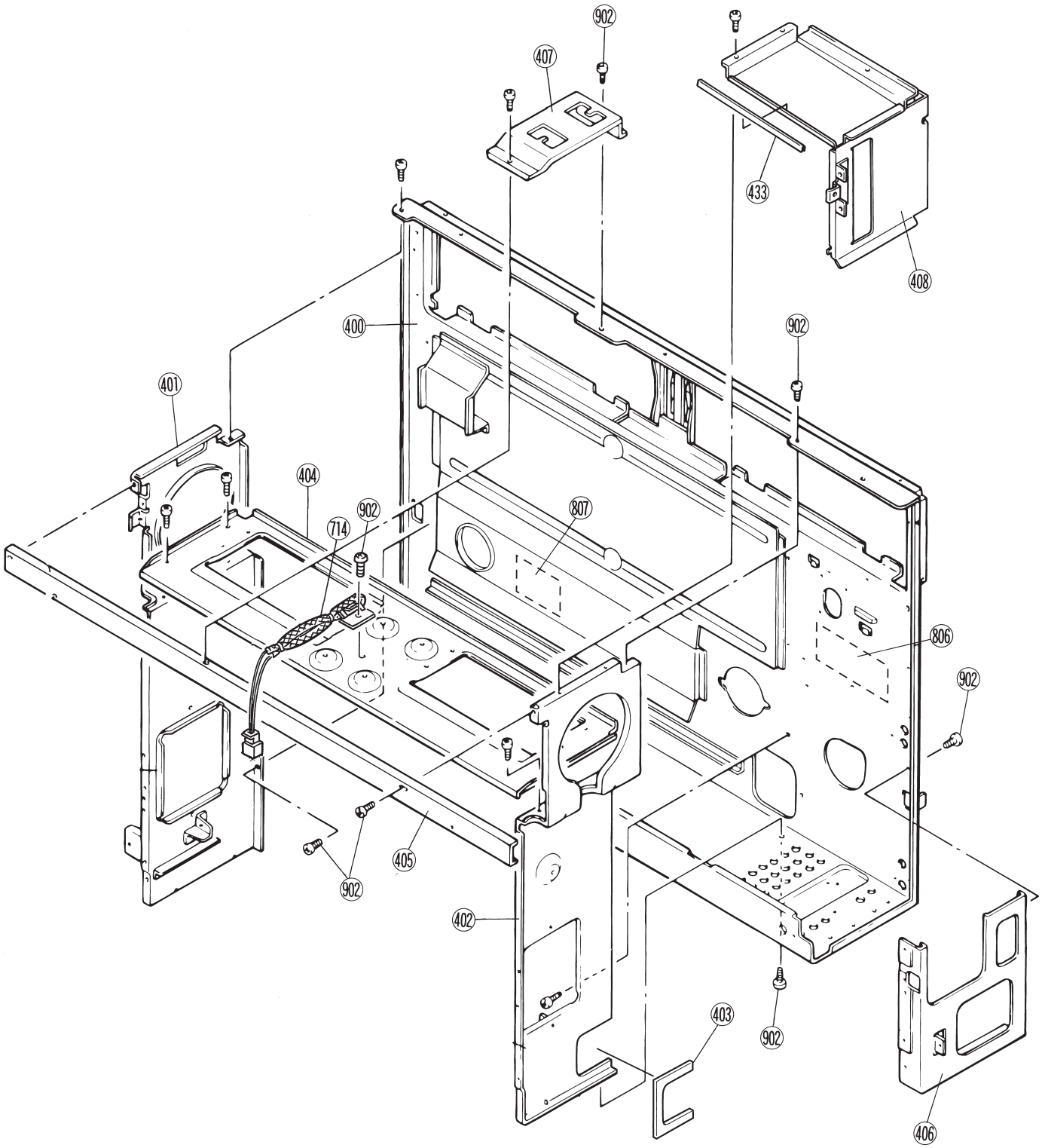


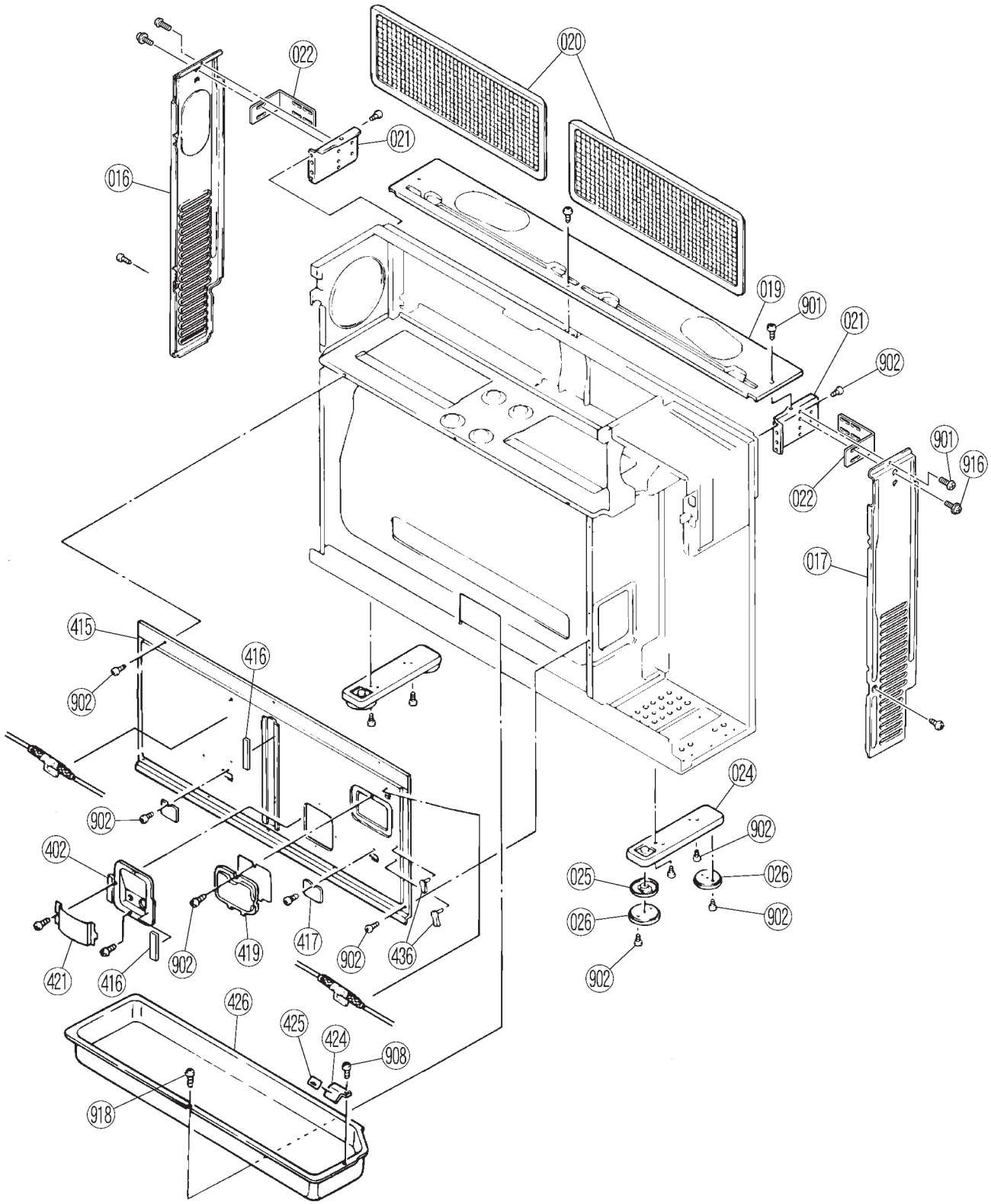
MARK	PARTS NAME
MS	MAIN SWITCH
R.TH	THERMISTOR
TF1~3	THERMAL FUSE 1~3
F	FUSE
ER	ELECTRODE
POV	MODULATING SOLENOID VALVE
TR	TRANSFORMER
FR1~3	FLAME ROD 1~3
CF	CONVECTION FAN
FM	CONVECTION FAN MOTOR
SP	SPARKER
OH.TH	OVER HEAT THERMISTOR
SV1~3	SOLENOID VALVE 1~3
BL	COMBUSTION FAN MOTOR
FCC	FAN CONTROL CIRCUIT
CPU	CENTRAL PROCESSING UNIT
B1~3	BURNER 1~3
PS	PRESSURE SENSOR
OHS	OVERHEAT SWITCH

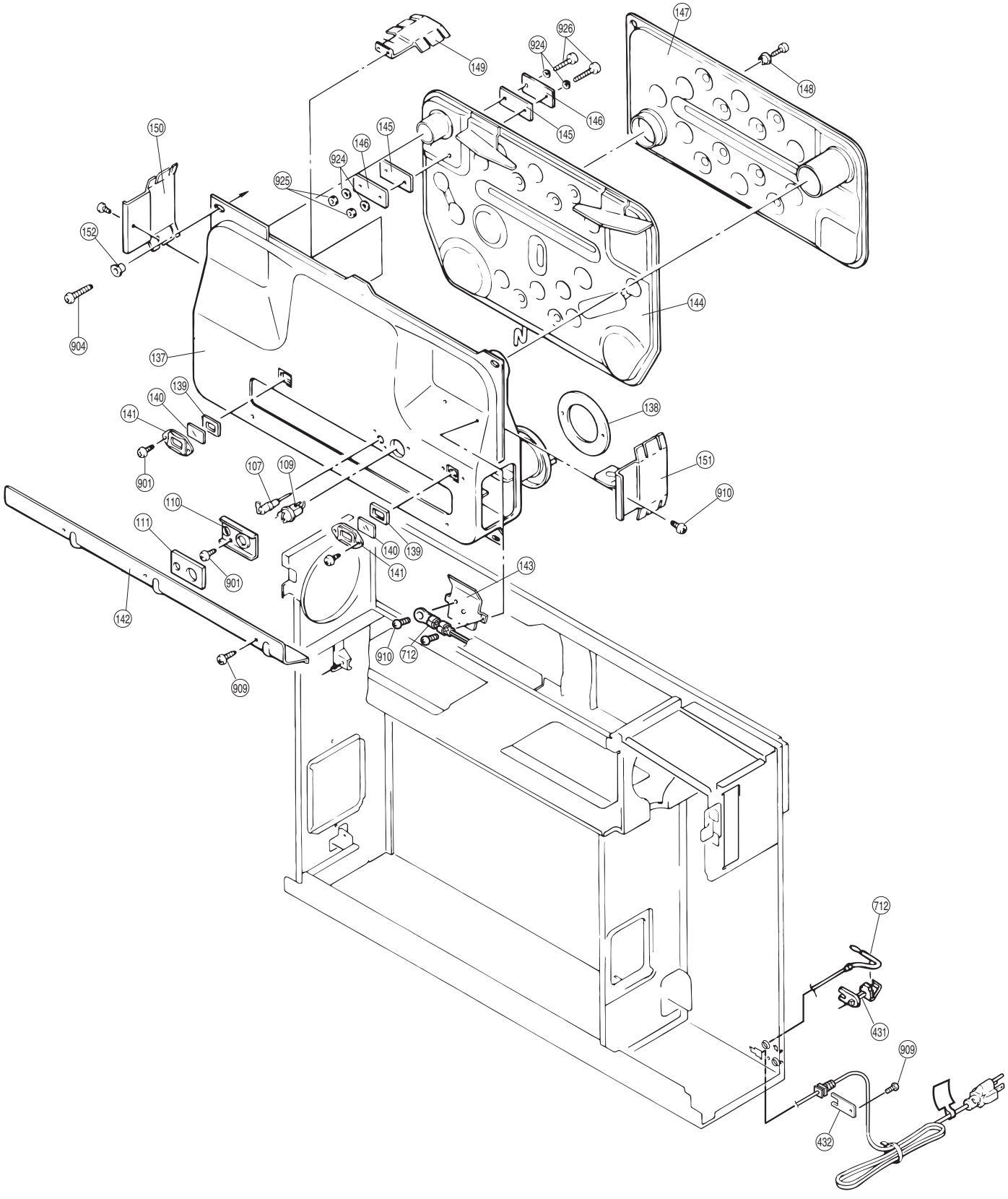


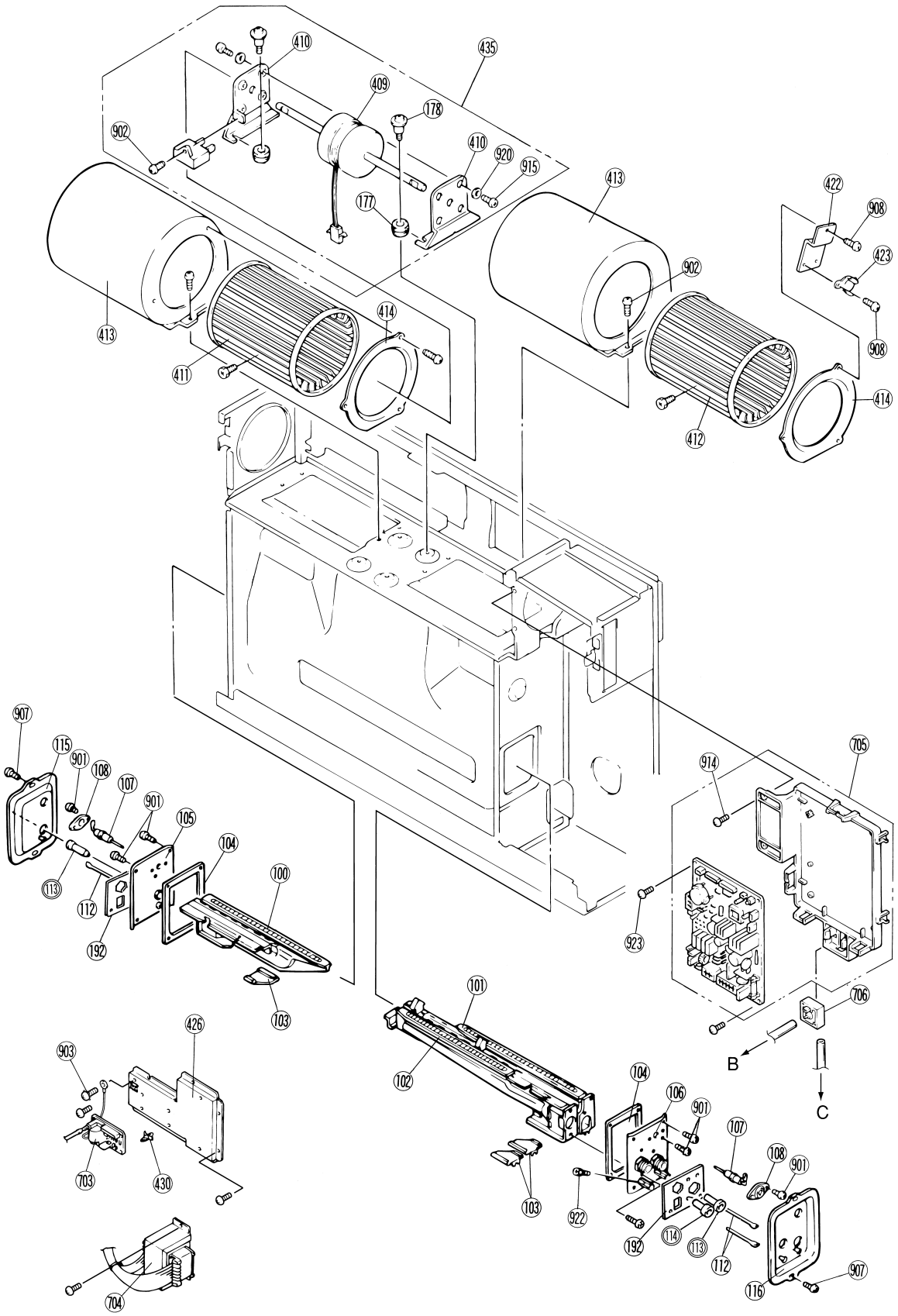
For replacement parts call Rinnai at 1-800-621-9419.

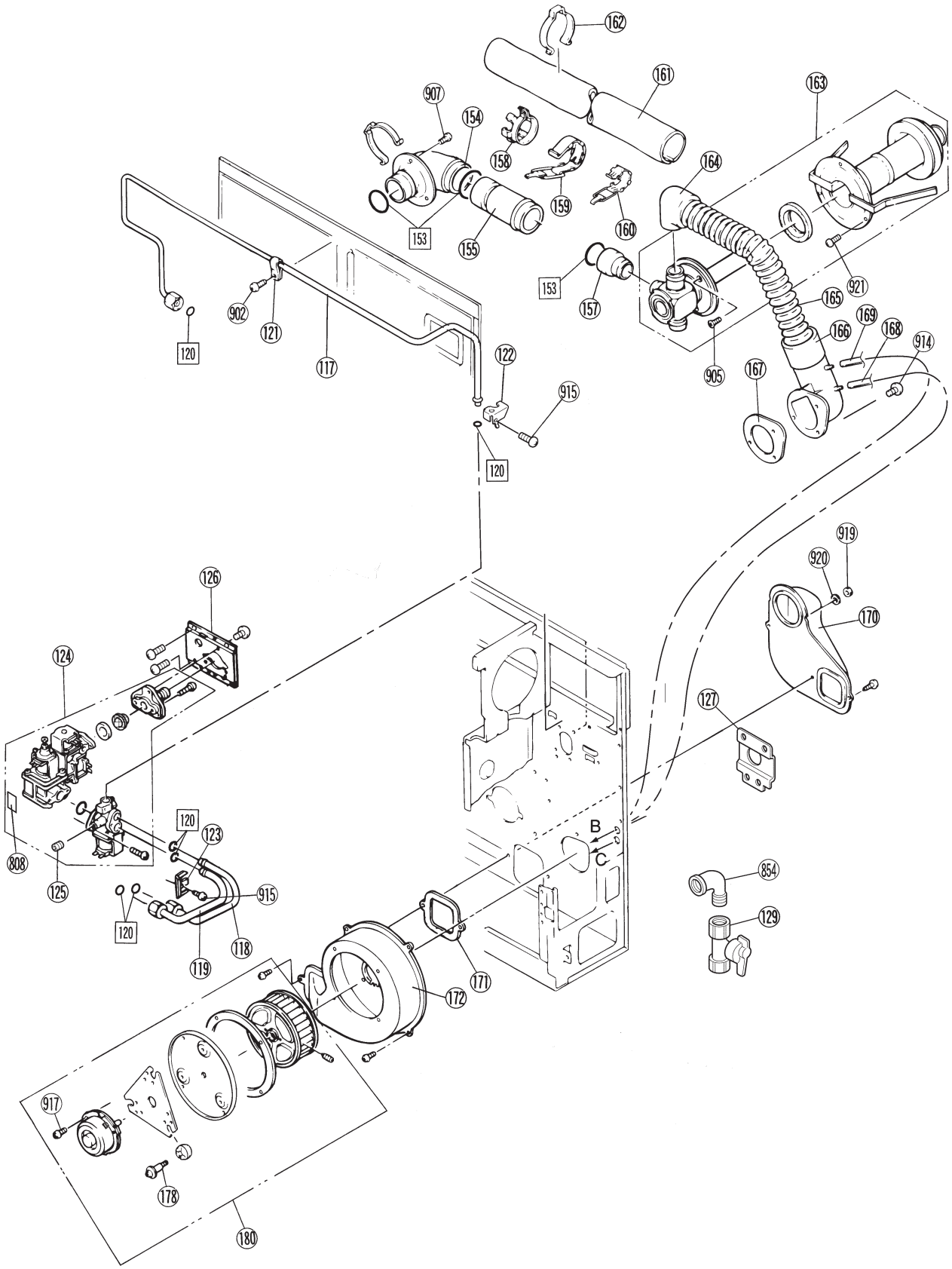


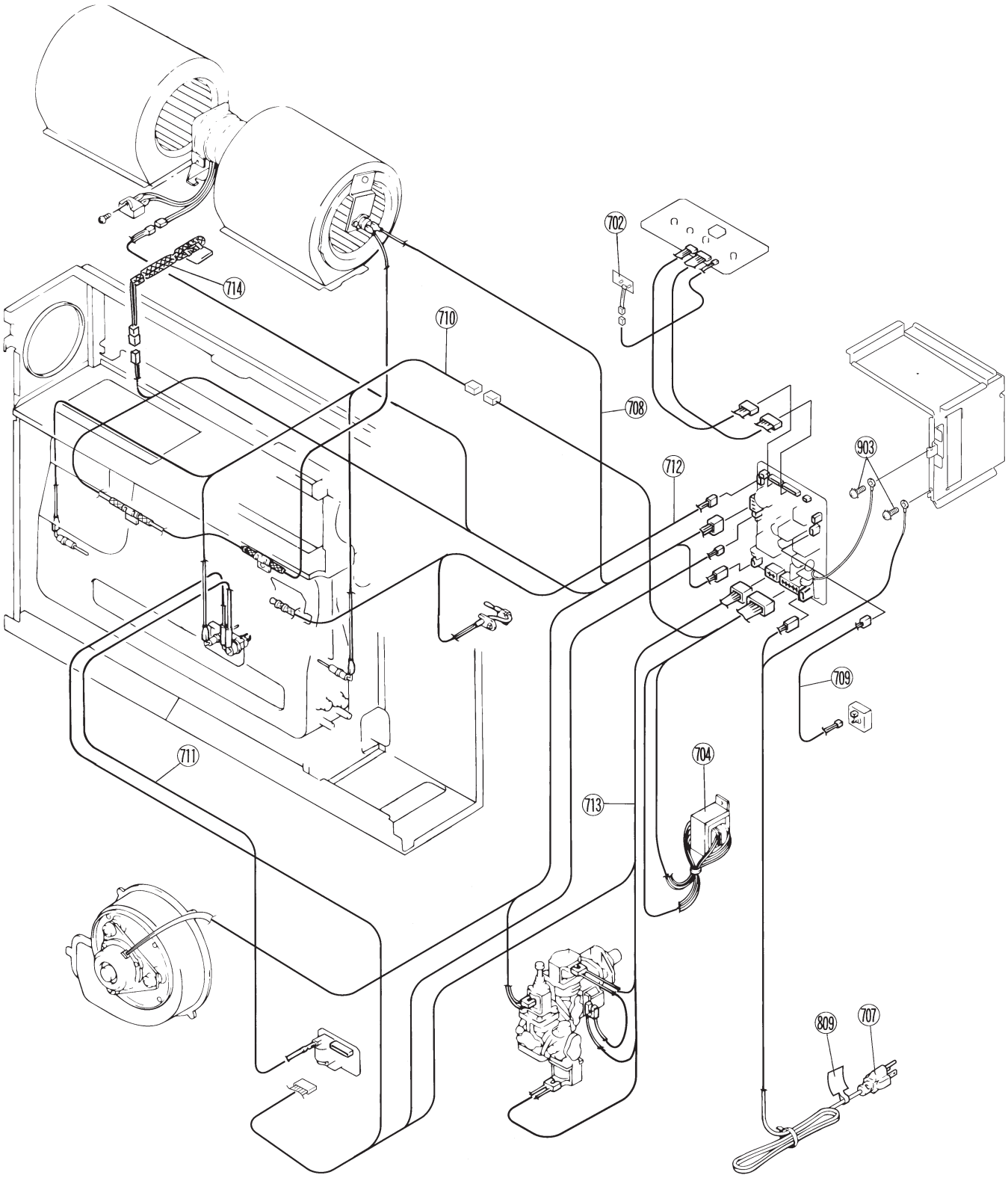

902
407
433
408
400
902
401
404
714
902
807
806
902
405
902
402
403
902
406


022
020
021
016
019
901
021
902
901
916
022
017
415
902
416
902
024
902
402
025
026
902
026
902
421
416
902
419
417
902
436
426
425
424
908
918


147
926
924
149
148
146
145
150
145
146
924
925
152
904
144
137
139
140
141
138
151
901
107
109
910
110
111
140
139
901
141
143
142
910
712
909
712
431
909
432


410
435
409
178
902
410
920
915
413
422
908
177
423
902
413
908
414
411
414
412
907
115
901
108
107
901
105
104
100
113
112
192
103
705
914
923
101
706
102
B
C
426
903
104
106
901
107
108
901
703
430
103
922
192
114
113
112
116
907
704


162
161
163
907
154
158
164
159
160
153
155
153
157
921
165
902
121
120
117
122
915
905
167
166
169
168
914
120
919
920
126
170
124
127
808
120
123
B
C
125
915
120
118
119
854
129
171
172
917
178
180


702
714
710
708
903
712
709
711
704
713
809
707

Parts List

No	DRAWING No.	PART NAME	QTY		REMARKS
			1004RFA	1004RFA-W	
001	1001F-073-9	SIDE PANEL I	2		
	1001F-073-4	SIDE PANEL D		2	
002	1004F-2071-6	TOP PLATE F	1		
	1004F-2071-3	TOP PLATE C		1	
003	1004F-2073-10	OPERATION LID J	1		
	1004F-2073-6	OPERATION LID F		1	
004	556F-558-2	FULCRUM	1	1	
005	ZUAA02SZ	STOPPER	1	1	
006	1001F-1514-2	DECORATION PANEL ASS'Y C	1		
	1001F-1514-3	DECORATION PANEL ASS'Y D		1	
007	1001F-160-9	FRONT PANEL ASS'Y I	1		
	1001F-160-5	FRONT PANEL ASS'Y E		1	
008	RHFE1004-0115	ESCUTCHEON PANEL	1		
	RHFE1004-0116	ESCUTCHEON PANEL B		1	
009	1001F-084-2	LOUVER SUPPORT TRIM B	1		
	1001F-084-3	LOUVER SUPPORT TRIM C		1	
010	1001F-163-2	LOUVER ASS'Y B	1		
	1001F-1323	LOUVER ASS'Y		1	
011	1001F-162-7	BOTTOM TRIM ASS'Y G	1		
	1001F-162-4	BOTTOM TRIM ASS'Y D		1	
012	1001F-164-4	FILLER ASS'Y D	1		
	1001F-1322	FILLER ASS'Y		1	
013	1001F-078	LOUVER DOOR HINGES	1	1	
014	551F-015	FILLER	1	1	
015	RHF300-185-1	MAGNET	1	1	
016	1001F-1410-2	BACK SPACER LEFT A	1		
	1001F-1410-9	BACK SPACER LEFT E		1	
017	1001F-1411-4	BACK SPACER B RIGHT D	1		
	1001F-1411-5	BACK SPACER B RIGHT E		1	
019	1001F-165-10	BACK SPACER UPPER ASS'Y J	1		
	1001F-165-13	BACK SPACER UPPER ASS'Y M		1	
020	1004F-228	AIR FILTER ASS'Y	2	2	
021	1001F-092	BACK SPACER SUPPORT	2	2	
022	1004F-825	WALL BRACKET B	2	2	
024	1001F-157	LEG ASS'Y	2	2	
025	550F-0220	RUBBER BRACKET ASS'Y	2	2	
026	550F-0225	BASE SUPPORT RUBBER	4	4	
027	1004F-2111	Lamp house	1	1	
100	1001F-150-3	HIGH BURNER LEFT ASS'Y C	1	1	
101	1001F-144-3	HIGH BURNER RIGHT ASS'Y C	1	1	
102	1001F-147-3	LOW BURNER ASS'Y C	1	1	
103	RHF250-075	DAMPER PANEL	2	2	
104	1001F-049	BURNER BRACKET PACKING	2	2	
105	1004F-2022	BURNER BRACKET LEFT ASS'Y	1	1	
106	1004F-2020	BURNER BRACKET RIGHT ASS'Y	1	1	
107	1001F-104-2	FLAME ROD	1	1	
108	RHF250-038	ELECTRODE CLIP	1	1	
109	1001F-216	ELECTRODE	1	1	
110	1001F-168	ELECTRODE BRACKET	1	1	

Parts List

No	DRAWING No.	PART NAME	QTY		REMARKS
			1004RFA	1004RFA-W	
111	1001F-175	ELECTRODE SEAL PACKING	1	1	
112	RHF250-076	AIR SHUTTER ADJUSTMENT	2	2	
113	1004F-2031	MAIN INJECTOR	2	2	
114	1004F-2036	MAIN INJECTOR	1	1	
115	1001F-042	BURNER SHIELD LEFT	1	1	
116	1001F-041	BURNER SHIELD RIGHT	1	1	
117	1004F-2066	INTERCONNECTION C ASS'Y	1	1	
118	1004F-2065	INTERCONNECTION B ASS'Y	1	1	
119	1004F-2064	INTERCONNECTION A ASS'Y	1	1	
120	M10B-4-8	O-RING	6	6	
121	1001F-101-2	INTERCONNECTION CLIP	1	1	
122	CP-30488	INTERCONNECTION BRACKET	1	1	
123	1004F-2030	INTERCONNECTION BRACKET	1	1	
124	RHFE1004-0130	GAS CONTROL ASS'Y C	1	1	
126	1001F-008-2	VALVE BRACKET B	1	1	
127	1001F-228	REVOLVING STOPPER D	1	1	
129	BRR37-244	ON-OFF VALVE ASS'Y	1	1	
137	1001F-138-2	MAIN HEAT EXCHANGER ASS'Y B	1	1	
138	RHF1000-167	INLET FLANGE PACKING	1	1	
139	300FT-14	GLASS WINDOW PACKING	2	2	
140	300FT-15	VIEWING GLASS	2	2	
141	1004F-2013	GLASS CLIP	2	2	
142	1001F-115	BLANKING PANEL	1	1	
143	1004F-2048	OT.TH BRACKET	1	1	
144	1001F-142-2	SUB HEAT EXCHANGER No.1 ASS'Y B	1	1	
147	1001F-143	SUB HEAT EXCHANGER No.2 ASS'Y	1	1	
148	1001F-169	SPACER	1	1	
149	1001F-021-1	SUB HEAT EXCHANGER CLIP A	1	1	
150	1001F-021-3	SUB HEAT EXCHANGER CLIP LEFT	1	1	
151	1001F-183	SUB HEAT EXCHANGER ASS'Y	1	1	
152	RHF1000-174	HEAT EXCHANGER BRACKET SLIP	2	2	
153	M10B-4-49	O-RING	3	3	
154	1001F-131	EXHAUST ELBOW ASS'Y	1	1	
155	1001F-132-2	SLIDE PIPE B	1	1	
157	1004F-530	EXHAUST ADAPTOR B ASS'Y	1	1	
158	1004F-401	SLIDE PIPE STOPPER	1	1	
159	1001F-250	EXHAUST PIPE STOPPER ASS'Y	1	1	
160	1001F-1730	EXHAUST PIPE STOPPER S ASS'Y	1	1	
161	1001F-111	COVER	1	1	
162	RHF1000-145	ELBOW COVER STOPPER	1	1	
163	431F-1900	FLUE ASS'Y	1	1	
164	RHF1000-132	AIR INTAKE ELBOW	1	1	
165	RHF1000-130-d	AIR INTAKE FLEXIBLE HOSE	1	1	
166	1004F-2032-1	AIR INLET A	1	1	
167	1004F-2033	AIR INLET PACKING	1	1	
168	1004F-2052-1	SENSING TUBE A	1	1	
169	1004F-2052-2	SENSING TUBE B	1	1	
170	1001F-158-2	AIR INTAKE DUCT B	1	1	

Parts List

No	DRAWING No.	PART NAME	QTY		REMARKS
			1004RFA	1004RFA-W	
171	1001F-053	SEAL PACKING	1	1	
172	1001F-153-2	COMBUSTION FAN CASING	1	1	
178	CP-30310	SCREW FOR MOTOR	3	3	
180	1004F-2082	COMBUSTION FAN TOTAL ASS'Y	1	1	
192	1004F-2088	BUSH RE-INFORCED BOARD	2	2	
400	1001F-186	REAR PANEL ASS'Y	1	1	
401	1001F-154	FRAME LEFT ASS'Y	1	1	
402	1001F-156	FRAME RIGHT ASS'Y	1	1	
403	1001F-112	WARM AIR SEAL PACKING	1	1	
404	1001F-004-2	CONVECTION FAN SUPPORT B	1	1	
405	1001F-066	TOP PANEL SUPPORT	1	1	
406	1001F-064	FRAME CORNER	1	1	
407	1001F-110	TOP PANEL REINFORCEMENT	1	1	
408	1004F-2006	FRAME CORNER ASS'Y	1	1	
409	ES-02051	CONVECTION MOTOR	1	1	
410	550F-0903	CONVECTION MOTOR BRACKET	2	2	
411	1004F-308-1	CONVECTION FAN A	1	1	
412	1004F-308-2	CONVECTION FAN B	1	1	
413	1001F-152	FAN CASING ASS'Y	2	2	
414	RHF1000-89	BELL MOUTH	2	2	
415	1001F-159-2	HEAT SHIELD BOARD B ASS'Y	1	1	
416	RC-223-21-1	SEAL PACKING	2	2	
417	1001F-137	VIEWING WINDOW PANEL	2	2	
419	302F-0506	O.H.S. PROTECTOR	1	1	
420	1001F-062	ELECTRODE VIEWING PANEL	1	1	
421	1001F-070	ELECTRODE COVER	1	1	
422	1001F-217	O.H.S. BRACKET	1	1	
423	ES-01131	OVERHEAT SWITCH	1	1	
424	1001F-172	WATER LEVEL INDICATOR	1	1	
425	550F-1418	WATER LEVEL LABEL	1	1	
426	1001F-037	HUMIDIFIER TRAY	1	1	
427	1004F-2016	TRANSFORMER BRACKET	1	1	
430	CP-90436-3	P.C.B. SUPPORT	4	4	
431	RC-312-628	THERMISTOR HOLDER	1	1	
432	RC-329-1033	POWER SUPPLY CABLE BRACKET	1	1	
433	1004F-2009	EDGE	1	1	
435	1004F-2085	CONVECTION MOTOR SUB ASS'Y	1	1	
436	CP-90077-1	SPEED CLIP	2	2	
700	1004F-2075	OPERATION P.C.B ASS'Y F	1	1	
702	1004F-2078	INDICATOR ASS'Y	1	1	
703	EI-161	IGNITOR ASS'Y	1	1	
704	ET-251	TRANSFORMER	1	1	
705	1004F-2310	MAIN P.C.B. TOTAL ASS'Y	1	1	
706	1004F-2051	PRESSURE SENSOR	1	1	
707	CP-90466-3	POWER SUPPLY CABLE ASS'Y	1	1	
708	1004F-2054	MOTOR LEAD ASS'Y B	1	1	
709	1004F-2053	SENSOR LEAD ASS'Y	1	1	
710	1004F-2059	FR LEAD ASS'Y	1	1	
711	1001F-1667-3	HIGH TENSION CORD ASS'Y	1	1	
712	1004F-2057	THERMISTOR LEAD ASS'Y	1	1	
713	1004F-2058	SV.IG LEAD ASS'Y	1	1	
714	1004F-2061	TF LEAD ASS'Y	1	1	

Parts List

No	DRAWING No.	PART NAME	QTY		REMARKS
			1004RFA	1004RFA-W	
800	CP-74167-27	RATING PLATE	1	1	
800	CP-74167-28	RATING PLATE	1	1	
801	CP-74168-27	RATING PLATE	1	1	
801	CP-74168-28	RATING PLATE	1	1	
802	RHFE1004-0112	OPERATION LABEL	1	1	
803	1001F-1651	FILTER LABEL	1	1	
804	556F-2065	CAUTION LABEL	1	1	
805	1001F-1656	CAUTION MARK	1	1	
806	431F-1840	PROPANE STICKER	1	1	
806	431F-1841	NG STICKER	1	1	
807	1001F-1654	EXHAUST CAUTION LABEL	1	1	
808	CP-72062B-2	SPEC MARK	1	1	
809	431F-1860	POWER SUPPLY CABLE LABEL	1	1	
810	431F-1862	GAS CHECK LABEL	1	1	
810	431F-1863	GAS CHECK LABEL	1	1	
811	431F-1830	EXHAUST CAUTION LABEL	1	1	
812	CP-71747-2	PULL LABEL	1	1	
813	CP-74177-5	RATING PLATE SUPPORT LABEL	1	1	
814	CP-74178-5	RATING PLATE SUPPORT LABEL	1	1	
850	RHFE1004-0110	OWNER'S MANUAL	1	1	
851	RHFE1004-0111	CONVERSION MANUAL	1	1	
852	1004F-2040	TEMPLATE	1	1	
853	1004F-2095-3	CONVERSION SET(TO NG)	1	1	
853	1004F-2095-4	CONVERSION SET(TO LPG)	1	1	
854	CP-30324	MALE - FEMALE ELBOW	1	1	
901	ZBA0408SC	SCREW			
902	ZBA0408SZ	SCREW			
903	CP-30421-1	SCREW			
904	ZBA0412SZ	SCREW			
905	ZBB0410SC	SCREW			
906	ZBD0408SC	SCREW			
907	ZBD0408SZ	SCREW			
908	ZEAB0408SZ	SCREW			
909	ZEAB0408SB	SCREW			
910	ZEAB0408SC	SCREW			
911	ZGAA0308SZ	SCREW			
912	ZAA0506SZ	SCREW			
913	ZAA0420SZ	SCREW			
914	ZEDB0408SZ	SCREW			
915	ZHAA0408SZ	SCREW			
916	ZHAD0510SC	SCREW			
917	ZDAA0410SZ	SCREW			
918	ZIAD0408SZ	SCREW			
919	ZRAB04SZ	NUT			
920	ZSCA04SZ	WASHER			
921	CP-30408	SCREW			
922	ZAA0306SZ	SCREW			
923	CP-30486-2	SCREW			
924	ZSCA04SC	WASHER			
925	ZRAA04SC	NUT			
926	ZAA0440UK	SCREW			
927	ZIAD0410SC	SCREW			

Consumer Support

Warranty Information

The installer is responsible for your heater's correct installation.

Please complete the information below to keep for your records:

Purchased from: _____

Address: _____ Phone: _____

_____

Date of Purchase: _____

Model No.: _____

Serial No.: _____

Installed by: _____ Installer's License No.: _____

Address: _____ Phone: _____

Date of Installation: _____

Limited Warranty

Gas Direct Vent Wall Furnace

What is covered?

This Warranty covers any defects in materials or workmanship, subject to the terms stated below. This Warranty extends to the original purchaser and subsequent transferees, but only while the product remains at the site of the original installation. This Warranty only extends through the first installation of the product and terminates if the product is moved or reinstalled at a new location.

How long does coverage last?

Item	Period of Coverage
Heat Exchanger	10 years from date of purchase *
All Other Parts	5 years from date of purchase
Reasonable Labor	2 years from date of purchase

What will Rinnai do?

Rinnai will repair or replace the covered product or any part or component that is defective in materials or workmanship as set forth. Rinnai will pay reasonable labor charges associated with the repair or replacement of any such part or component. All repair parts must be genuine Rinnai parts. All repairs or replacements must be performed by an individual or servicing company that is properly trained, state qualified or licensed to do the type of repair.

Replacement of the product may be authorized by Rinnai only. Rinnai does not authorize any person or company to assume for it any obligation or liability in connection with the replacement of the product. If Rinnai determines that repair of a product is not possible, Rinnai will replace the product with a comparable product at Rinnai's discretion. If a component or product returned to Rinnai is found to be free of defects in material or workmanship, or damaged by improper installation or damaged during return shipping, the warranty claim for product, parts and labor may be denied.

* If the Heat Exchanger fails due to a defect in material or workmanship within the sixth (6) through the tenth (10) year from the date of purchase, Rinnai will make the following allowances toward the purchase of a replacement Heat Exchanger:

Heat Exchanger	
Year of Failure	**Allowance**
6	50%
7	40%
8	30%
9	20%
10	10%

How do I get service?

You must contact a state qualified/licensed contractor or authorized service provider for the repair of a product under this Warranty. For the name of a qualified/authorized service provider please contact your place of purchase, visit the Rinnai website (www.rinnai.us), call Rinnai at 1-800-621-9419 or write to Rinnai at 103 International Drive, Peachtree City, Georgia 30269.

Proof of purchase is required to obtain warranty service. You may show proof of purchase with a dated sales receipt, or by registering within 30 days of purchasing the product. To register your appliance, please visit www.rinnairegistration.com. For those without internet access, please call 1-866-RINNAI1 (745-6241). Receipt of Registration by Rinnai will constitute proof-of-purchase for this product. However, Registration is not necessary in order to validate this Warranty.

What is not covered?

This Warranty does not cover any failures or operating difficulties due to the following:

- accident, abuse, or misuse
- alteration
- misapplication
- force majeure
- improper installation (such as but not limited to, condensate damage, improper venting, incorrect gas type, or incorrect gas pressure)
- improper conversion (including conversions for inventory adjustment)
- improper maintenance (such as but not limited to vent blockage)
- incorrect sizing
- any other causes other than defects in materials or workmanship

This Warranty does not apply to any product whose serial number or manufacture date has been defaced.

Limitation on warranties

No one is authorized to make any other warranties on behalf of Rinnai America Corporation. Except as expressly provided herein, there are no other warranties, expressed or implied, including, but not limited to warranties of merchantability or fitness for a particular purpose, which extend beyond the description of the warranty herein and further Rinnai shall not be liable for indirect, incidental, special, consequential or other similar damages that may arise, including lost profits, damage to person or property, loss of use, inconvenience, or liability arising from improper installation, service or use. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

Any implied warranties of merchantability and fitness arising under state law are limited in duration to the period of coverage provided by this limited Warranty, unless the period provided by state law is less. Some states do not allow limitations on how long an implied Warranty lasts, so the above limitation may not apply to you.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Ask about Rinnai®

Rinnai's other fine products

Rinnai America Corporation
103 International Drive
Peachtree City, GA 30269
TOLL FREE: 1-800-621-9419
www.rinnai.us

Tankless Water Heaters

- Residential and Commercial Applications
- Continuous Hot Water
- Up to 9.8 GPM
- High Energy Efficiency
- Propane or Natural Gas
- Internal or External Installation
- Digital Temperature Control
- Small, Compact Design

Direct Vent Furnaces

- High Efficiency
- Cool-to-the-touch Cabinet
- Blower Included
- Vent Terminal A Included
- Gas Conversion Kit Included

Direct-Vent Fireplace, RHFE-750ETR

- Up to 83% AFUE Energy Efficiency
- Zero-Clearance Installation
- Available in Four Options of Fronts
- Remotes and Fan Included
- Gas Conversion Kit Available

Hydronic Air Handler

- Designed for Use with Rinnai Systems
- Domestic Hot Water Priority
- Optional Programmable Thermostat
- Zero Clearance to Combustibles
- Accommodates Standard Cased-Coils

RHFE1004-0110X02
Printed in Japan 2009.12

Register your product at www.rinnairegistration.com
or call 1-866-RINNAI1 (746-6241)

© 2009 Rinnai America Corporation

102298